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THE

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Original Communications.

DENTAL MATERIA MEDICA.

NITRATE OF SILVER, AgO, NO_5

BY GEO. WATT.

This salt is usually prepared from silver coin, which is an alloy of silver and copper. After the coin is dissolved in nitric acid, the copper is removed by a special chemical process. But when a dentist prepares it, his best course is to purify the silver before dissolving it in the acid.

Preparation.—Dilute one ounce of nitric acid with two ounces of pure water, and add, in thin slips, as much silver as it will dissolve. Evaporate the solution to dryness, and the result is crystallized nitrate of silver. If desired, the crystals may be melted, slowly, in a crucible or porcelain capsule, and poured into iron molds.

But dentists will have but little occasion to prepare the nitrate, as it can be obtained in any drugstore, or from any regular physician.

Purity.—Prepared as above, the salt is pure; but much of it, as found in market, is otherwise. The salt is white, and completely soluble in distilled water. It blackens, from partial reduction, in contact with organic matter. When it is contaminated with nitrate of copper, the addition of concentrated ammonia to its solution develops a blue color. By adding hydrochloric acid, or a solution of common salt to its solution, a white precipitate falls, which dissolves readily in caustic ammonia when the salt is pure, but not when lead is present. When the white precipitate (chloride of silver) is all thrown down, the watery solution remaining should evaporate without a residuum. If any is left, it is due to adulteration.

PROPERTIES.—Nitrate of silver forms colorless, transparent, prismatic crystals. It has a bitter, metallic taste. It fuses at a temperature of 425°, and decomposes at 600° or 700°. It does not deliquesce; nor does it change color in the light, except when organic matter is present. In contact with organic matter, a part of it is decomposed, and suboxyd of silver is deposited. It is soluble in water and in alcohol. Its affinity for organic matter is so strong that it is a very reliable test for its presence, and the readiness with which its black suboxyd is perceived, renders it all the more convenient for this purpose.

PHYSIOLOGICAL EFFECTS.—Nitrate of silver is a most powerful corrosive poison. Its local action is that of a caustic, or escharotic. Dr. Turner imputes this power to the action of the nitric acid, which is liberated by the decomposition of the salt, from its contact with organic matter. But this explains only a part of the process; for the salt has a strong affinity for albumen, fibrin and casein. It unites with the former of these, according to Lassaigne, in the proportion of 84.5 of albumen to 15.5 of the nitrate. Its union with the others is in the same proportions. The compound of the nitrate with albumen is soluble in an excess of either ingredient, and also in ammonia and chloride of sodium.

Nitrate of silver, in common with other escharotics, produces a change in the vital actions of the surrounding tissues, resulting in exalted vitality, and often in inflammation. Its action on living matter is, therefore, *chemico-vital.*

When the nitrate is applied to the skin, or an ulcerated surface, a whitish compound results, formed by a union of the salt with the albumen of the tissue. This soon turns black, owing to the decomposition of the nitrate, and the reduction of the protoxyd of silver to a suboxyd. Though on account of its very strong affinity for albuminous tissues, the nitrate is a powerful caustic; yet, ordinarily, the pain produced by its action is not very severe. This results from two causes: By the energy of its combination with the albumen of the tissue to which it is applied, the vitality of the surface is almost instantly destroyed; and the compound of the salt and the albumen, being insoluble, in most substances, acts as an elastic and perfectly fitting covering to the subjacent living parts, protecting them from the action of the atmosphere and other irritants. This devitalized layer hardens, corrugates, and in a few days, peels off; usually leaving the parts beneath in a healthier state than before the application.

USES.—From what has been said of the chemical and physiological effects of the nitrate, the intelligent practitioner will be at no loss in regard to its practical application. It is used by dentists to relieve sensitive dentine, as an application to diseased gums, and to arrest hemorrhage.

Hypertrophied gums are benefited by the nitrate applied in substance; and the same is true of tumors and callous growths on the gums. Apthous ulcers are often promptly relieved by the nitrate; but there are other remedies better adapted to their treatment.

When the nitrate is applied to dentine it acts promptly, by uniting with the gelatinous portion, destroying its vitality to the extent of the combination. A part of the salt is decomposed; and the liberated acid combines with the calcareous materials. The suboxyd of silver, and the compound of the nitrate with albumen, both being insoluble, there can be no danger of the salt, or its results, being absorbed by the dentine. The fear of discoloring the tooth, by this means, as expressed by Prof. McQuillen and others, is groundless.

The nitrate acts on dentine with more energy than chloride of zinc, but with less pain, and not to so great a depth.

Nitrate of silver is used extensively, both by dentists and physicians, to arrest hemorrhage; but in this respect, its use is almost empirical. It is not entitled to rank as a styptic. It forms a coagulum with the albumen and fibrin of the blood; but this clot is, as already remarked, soluble in albumen; hence the blood dissolves its way through it, and the hemorrhage is resumed. It is true that this agent often succeeds; but others are far more reliable. A solution of the nitrate is sometimes used as a wash for the mouth, in ptyalism, or when there is a spongy condition of the gums; but it has no advantages over astringents or detergents, and is objectionable on account of the suboxyd depositing on and blackening the teeth. The dentist has no occasion to prescribe its internal use.

CREOSOTE, $C_{14} H_9 O_8$.

Creosote was discovered by Reichenbach, who gave it its present name on account of its remarkable antiseptic power. The word means *the preserver of flesh.*

Creosote is obtained by the destructive distillation of wood, or other organic matter. Its preparation is complex, and need not be detailed here. The curious reader is referred to the Dispensatory, Turner's Chemistry, or other standard works.

PROPERTIES.—Pure creosote is an oleaginous, colorless, transparent liquid, with a smoke like odor, and a caustic, burning taste, "with a sweetish after taste." Its specific gravity is 1.03, according to its discoverer, and 1.06 according to Dr. Christison. This discrepancy doubtless results from the impurity of one or both of the specimens experimented on. Indeed, the composition of creosote is rather uncertain, but is probably about as indicated by the above symbols, Its boiling point is 397°. It forms a resinified compound with chlorine, decomposes nitric acid, and is decomposed by it, and is soluble in alcohol, ether, acetic acid, naptha, and sulphuret of carbon. It dissolves resins, and some of the metalloids, as an example, iodine. It forms two definite combinations with water. One of these contains 100 parts of creosote and 10 of water. The other, 1.25 of creosote and 100 of water. It forms a coagulum with albumen, but appears to have but little affinity for fibrin. Its affinity for albumen and its ability to form an insoluble compound with it constitute the secret of its antiseptic power.

Purity.—Pure creosote is colorless, and does not become colored by exposure to light. It is completely soluble in acetic acid and in a solution of caustic potash. If not dissolved by these, it is adulterated.

Physiological Effects.—Creosote is an active caustic. Its escharotic power, as stated above, is due to its affinity for albumen, which is so strong as to take the latter from living tissue, and thus destroy vitality to the extent of the combination. Its compound with albumen is white, hence the extent of its escharotic action is readily observed.

Uses.—Creosote is much more useful to the dentist than to the physician. For the relief of toothache resulting from exposure of the pulp, it is the sovereign remedy. By devitalizing the surface of the pulp, and forming an elastic, flexible, and insoluble layer over the subjacent living parts, it usually gives complete, and almost instantaneous relief. By applying it around the neck of a tooth, by means of a soft string, or otherwise, the pain of dental periostitis is often allayed. In the cure of alveolar abscess, it is invaluable. The sac at the end of the dental root may be totally obliterated by passing creosote into it, either through the canal or by an opening made through the gum and process. Its combination with iodine is valuable in this respect, especially with scrofulous and syphilitic patients. Properly diluted, it is a good application, when supuration has taken place within the antrum. When the dentist desires an irritant, an escharotic, or an antiseptic, creosote will not disappoint him. All its value depends on its ability to perform these important offices.

A strange fallacy in regard to creosote has almost universal credence. I allude to the belief that it promotes the decay of the teeth, Many physicians, (I fear, a majority), are blinded by this delusion, than which nothing can be further from the truth. They believe that creosote causes decay of the teeth; yet they smoke their bacon, *to impregnate it with creosote*, to prevent its decay.

Creosote is a better styptic than nitrate of silver, but is less reliable than tannin, or the perchloride, or persulphate of iron.

I know of nothing, in the province of dentistry, that calls for the internal use of creosote.

ADDRESS.

[Read before the Mass. Dental Association at Boston.

H. F. BISHOP, D.D.S.

Nearly three hundred years ago Cervantes makes Don Quixotte say: "a diamond is not so precious as a tooth." There have been wonderful developments in dental science since Sancho Panza was called to officiate as a dentist to his noble master Don Quixotte. Rude aud unskilled were the fingers of that age in comparison with those now required to perform the varied duties of a dentist; but now, as *then*, a tooth is more precious than a diamond.

Dental science of to-day—or dental education—is the theme of this paper.

No student, of however high qualification, can enter upon the task of acquiring professional excellence in this noble calling without engaging, at once, in a career of great labor, demanding the utmost perseverance through a long life.

The requirements of a dental education, which shall meet the demands of the present age, are manifold. Dentistry, both as a specialty of surgery or operative dentistry, and as a mechanical art—the two covering the least possible ground of attainment necessary for admission into the profession, will herein be considered. As a specialty of surgery, how extensive and diversified is the field of labor, which keeps the student forever passing over new ground; never the same operation under the same pathological conditions—never, or almost never, the same normal or abnormal condition of things existing twice, revealing what treatment shall govern us.

Dentists are not fully qualified for their profession unless they have devoted much attention to the general subject of medicine and surgery; I would that all should graduate hereafter, but, if not, they cannot excuse themselves from a thorough knowledge of anatomy, physiological chemistry, pathology and therapeutics.

For is not a dental student expected to understand the anatomy of the human body thoroughly? to be familiar with the bones and the muscles—to understand their mechanism, their relative position and functions? see clearly their connection between those life-giving organs of respiration, circulation and digestion. Nor may he be ignorant of the functions or rules of other organic or inorganic forces; secretion, absorption and perspiration are all to be traced out in the circulation of their fluids in supplying the needed life to the system. These must all be understood as well as the exhaustion or waste of such fluids when devitalized.

Then into how many hidden paths of microscopic research must he work his way and investigate the capillary and tubulated mechanism of a tooth from its original gum or sac to its final perfection.

He must follow the development of the membrane through its ingenious method of clothing itself for perfection with those harder substances of bone, enamel and cementum. All this and much more is requisite to obtain a starting point to the great field lying before the student of dentistry. These last are not specialties in which the student of medicine or surgery keeps pace with the dental surgery—while we must have his generalities, he excuses himself from our specialties. While we cannot dispense with our colleges and dental educators for ourselves, we should be invited to fill a chair in their colleges, for the purpose of teaching a branch of their science almost wholly neglected. I desire to look upon the bright side of this matter—and perhaps some would say that I over-estimate both my profession and those engaged in it; but I consider it a duty we owe to ourselves to keep up a high standard of dental qualification. It is my great joy and satisfaction that I speak to a highly intelligent, and I trust, educated body. I hope the day is past for those to come into our ranks who have had no advantages of early education; and I believe that such as we have had are already far on the high road to respectable attainments by self culture and indomitable perseverance. How many still among us who have been in practice ten, or even twenty years, will hesitate to take a course of lectures in our dental colleges? If I am allowed to speak from my own experience, I can truly say that after ten years of practice, I found it exceedingly profitable to attend college, and now, after ten years more of practice, since graduation, I can hardly see how I can afford to stay away from those golden opportunities of instruction which these institutions offer.

Now, dental education, requiring such diversity of talent as it does, may be subserved, and both operators and students be benefited by a survey of those engaged in practice; especially those who, in one department or another, have reached some professional eminence—who have some superior excellence in their own method—who give the best results in particular departments, in which they have made some discovery or achievement valuable hereafter to all. The highest skill and ability of the most eminent and successful in our profession should be our patterns till we may obtain a more excellent way of our own: and while we feel stimulated by what has been done, let us *study*, read, *think* and work for those hidden truths yet to be revealed. While few as yet have attained very satisfactory results of the profession, yet no one need despair of having some special thunder of his own which should be his mark of distinction—which should give him some respect with his professional brethren. Either he should have invented or discovered some useful aid to our calling—have given us some easy way to accomplish some hitherto difficult operation; or he may have the credit of being particularly skilled in the case of the natural teeth, or be able to render the best possible substitutes for the loss of them. Let him give us a treatise on dietetic influences on the teeth—let him classify the evils or benefits suffered by or secured to children of certain ages—let him show us the best possible results in the preservation of the deciduous teeth and their wonderful relation to the second set —or he may commence still earlier and show what beneficial results may be secured by parents for their offspring even before birth, and draw correct conclusions from congenital life to our help.

The greatest wisdom and skill are necessary in the case of teeth between the ages of eight and twenty, and he who is wise in the diagnosis of the requirements of a patient at this important age — seing not only what is presented to the eye to-day, but foreseeing the future, and taking measures accordingly to secure a healthy denture, is not destitute of a high order of talent for the practice of dentistry.

The present state of dental education suggests the practicability of a sub-division of labor, and renders it almost necessary that there should be specialists for the highest attainments in our most difficult departments. Not every one could be expected to undertake successfully, cleft palates, fractured jaws and diseased antrums; and even orthodontia, or the treatment of obstinate irregularities and the filling of difficult teeth require a specialist almost as much as the construction of artificial velums for cleft palates.

Mechanical dentistry, too, is a field affording abundant room for skill in supplying dental substitutes not only, but leads one at once into a great variety of collateral departments of mechanism where the inventive faculty has full scope.

There is no profession or calling which demands greater diversity of talent or more familiarity with mechanical art and science than dentistry. The student who contemplates the mastery of this profession should never think of giving less than years of time and devotion for preparation — both with able preceptors in private practice, and by attending two courses of lectures, or an equivalent in our colleges. There is no shorter or easier method to final success than thorough preparation; nor need he feel that he has to wait for age and grey hairs, with long and valuable experience before he can be in successful practice. Experience is of great value, and not to be underrated, but still the great advantages of education which our colleges afford, together with all the helps a student can command in these days, should qualify one for great superiority in work as compared with years in the past.

I trust the day is past for a quack in dentistry to stand in any desirable position, or to make it long profitable in a pecuniary sense. One great education for all of us is a thorough digestion of our dental periodicals ; they should be held indispensable and although now of quite high order might be still more and more improved by contributions from the daily laborers and gleaners in the field. Other great educators, also, are the dental societies which are springing up all over the country ; he who abstains entirely from these useful discussions by associated bodies holds no enviable position. He is not willing to benefit either himself, his profession or mankind generally. It is a lamentable fact that in too many cities dentistry suffers from want of associated labor, and the co-operation of those engaged in it. Can it possibly be a sufficient excuse for men who have long labored honorably and successfully in the profession, to stand aloof from the meetings of societies and conventions, instituted for the elevation and development of the profession, because, perhaps, there may be men in these associations with whom they disdain to fraternize ? Why do they not shake off this Jewish robe of seclusion, and come forth among the gentile host, which truly has the ark of the profession in charge to hand down to posterity, and lend their dignity and influence to make these societies, if not what they like, such as they think they *should* be, in character and standing ?

In concluding this paper, gentlemen, allow me to ask, what shall be our governing rules in regard to taking students ? Will not every man in the profession pledge himself, hereafter, to exact a long pupilage from every student, and offer every inducement and encouragement to students to graduate before commencing practice.

Henceforth, let our motto be excelsior, — remembering, that success, in the highest acceptation of the word, comes only through strict honesty. Let us be honest to ourselves, — honest to the profession — honest to our patients — honest to facts and truths, and those great facts and truths will soon crown our hopes with success, equal to our highest ambition, and place our profession where it shall be, on a footing with the liberal professions of the country.

THE PROVINCE AND DUTIES OF THE DENTIST.

Read before the Central Ohio Dental Association, at Wooster, Nov. 14, '65

BY H. J. CRESSINGER.

MAN'S wants are as varied as his physical organization is wonderful, and he who knows and understands them best, can best supply them. From the day of his birth to the day of his death, is he a slave to that which sustains existence. But, it is our aim to speak only of wants necessary to his happiness, which are pertinent to us as a profession.

That the amount of study and practice necessary to become a proficient in dentistry, is too little appreciated, none will deny. True, a man who has naturally a high order of endowments may originate that which is valuable. Such can spring only from the few of the indomitable zeal and ambition of Drs. Franklin, Watt, and men of like ilk; yet, such instances cannot be regarded as arguments against systematic training. Nature does not make a man a dentist. He may have superior gifts for such a calling, but he must become acquainted with the agencies which he employs, else his efforts must be experiments, nothing certain; whereas, a familiarity with principle and laws will enable him to call to his aid instrumentalities the ignorant know not of.

Let me not be understood, that I disregard the honorable efforts of those who have never had educational advantages, far from it; neither would I have you grope on, year after year, in " the good old way," following a routine you have not the moral courage to change, or, adhering to with willful obstinacy and prejudice, simply to be revenged upon, perhaps, your brother competitor.

Labor and perseverance, in as honorable calling as ours, will be rewarded; it is noble; but a bickering, biased, prejudiced disposition, will *drag its possessor downward.* When I speak of attainments and advantages in dental education, I do not limit it to the class who are situated pecuniarily that they can finish a course of study and graduate. Now, we want theory, we want science, but they will avail us nothing unless accompanied with practical and hard work. It is one thing to direct, but quite another to accomplish.

It is not practical for all to become eminent, but we can labor each in his own sphere and be useful. We need not sit down contented, because we have a large practice, and say, " well, all I have to do is to work away, and become rich," and how often is it remarked by those outside of the profession, "what an easy time Dr. A. has of it! How much money he makes!" True, a dentist having a large patronage, makes money — and he ought to, for in nine cases out of ten he has worked hard for it; and I must say to you members of this association that, though I have had less experience than most of you, I have never yet been able to find the "easy times" so much talked about. On the contrary, it is anything but an easy task, to perform successfully a difficult dental operation. It requires a firm and unflinching nerve, and good physical endurance to labor successfully at all in our calling. And after years of study and labor, who among us is satisfied with the work of his hands? How many imperfections we see — desire is not satisfied, rest is not found. There are those who are so self-sufficient as to flatter themselves that their productions are perfect. To such, an appeal would be folly — for egotism has dammed up the spring of aspiration, and ignorance holds unlimited sway.

I shall advert to but few of the duties of the dentist. And first, the mechanical department claims our attention, and here a *decided* and *persevering* taste for the fine arts should occupy the student's mind.

An error is probably committed by most dentists, with students, in putting them upon artificial work before they have learned one principle or law involved in the work. If it be the first work a student can perform, it does not follow that he undertake it before at least a moderate knowledge is attained. As soon place the inexperienced helmsman at his post in a floundering sea, instead of a calm, and expect equal results. Would not such a course tend to retard further effort?

There are technicalities in inserting sets of teeth, that can be learned only through experience. Theory may point the way, but the student must see the application by a competent workman, and then by perseverance, success will reward the student. The manner of taking an impression, of grinding the teeth, adapting them to the model, packing, vulcanizing, and last, but not least, putting them in the mouth of the patron, all require attainments which none but the skillful can hope for in order to succeed.

In the operative department, or "chair-work" as it is sometimes called, we have far greater range. No part of the profession requires so much study and application, to insure success; and it is the experience of all, that daily practice adds to proficiency, that daily we have cases taxing our skill to the utmost — something different from what we have yet seen. The labor also required in this department is trying and wearing on the nerves, and general health of the operator. Inhaling the breath of the patients; the position during the operation; the constant mental strain; being intent upon your work, and yet avoid wounding the patient, all, make it one of the most difficult and arduous accomplishments of the arts. Then how important, that all knowledge which will facilitate such an operation, should be sought for.

As a practical hint, let me call your attention to the condition of your excavators and drills. They should be kept sharp. All have experienced the marked difference between a drill that has been used a week, and one entirely new. Much time (which is always an important consideration with dentists) will be saved, and much unnecessary fatigue to the patient. Little difficulty will be experienced now in procuring good instruments; and for daily operations in filling, the supply of drills and excavators should be constant, at least every week. For fang fillings we have labored under some disadvantages on account of insufficient and unworthy instruments — but that deficiency is now met in Palmer's sets for fang fillings. Your gold is another object of constant care and attention. I can fully attest to the result of using gold that has lost its adhesive properties by age or exposure, and most of you have doubtless experienced the difference in the gold of the same book, the first used working nicely; but as it becomes exposed even a few days, will become dry and brittle, and is very hard to pack or even introduce into the cavity. It should be as ductile and adhesive as possible, and gold foil deficient in these respects is worthless for good operations. Much annoyance and actual difficulty are experienced by many in filling cavities exposed to flooding by saliva, and I am not loth to confess, that it is to me the greatest hindrance I have to contend with in the use of adhesive foil. I have read of inundated fillings, but I am still sceptical, and will continue to be, until I learn by what philosophy adhesive foil can be united, when submerged in water. I have always been taught, that a perfect plug could not be made, unless the walls of the cavity, and the gold were kept perfectly dry. My experience confirms the doctrine, and more; even the breath will sometimes destroy the unison of particles of foil. There are few plans proposed to remedy the evil, and most of these ineffectual, and with a single operator impracticable. We wait for some inventive genius to extricate us from the dilemma. Begging your leniency for this digression, I resume the subject.

Extraction of the teeth we pass, with the observation that the improvements in extracting instruments render it almost a minor consideration, except, probably, in case of anamolies of the parts, which an intelligent operator will readily overcome.

We notice next, pathological condition, as relating to dentistry, and remark, that here, almost a new field has presented itself within the last few years. The generality of dentists, knew nothing of Physiology and Anatomy, consequently did not attempt treatment of these conditions, and if at all, only at random.

But, time and opportunity have given us light, and now, treatment of all diseases of the mouth, may rightly be assumed by the dentist. There is, probably, no one part of the body, the treatment of which requires such an extensive knowledge of the system, as the mouth and its attendants.

Indeed, the tongue, the gums, the internal membrane of the mouth, are, all more or less affected by every disease humanity is heir to. Then who will deny, that before a correct diagnosis is attained, at least a limited knowledge, further than the immediate parts should be possessed by the dentist. Many are the causes that produce caries, and it is for us to determine what is the immediate cause in such a particular case. When the treatment required is general, the patient may be referred to a physician; but there are many cases in which the dentist may successfully officiate, and indeed, in which it would be *his duty*, especially, when pernicious influences are being excited upon the teeth.

In a word, it is the duty of the dentist, to treat all the parts that surround the teeth and are influenced by them, or that they influence.

To attempt to direct the application of treatment, in any sense, would be entirely out of place here, as we pass to notice a few general principles which should actuate us. We should continually strive to advance, to improve, and I rejoice to say to you that the way is entirely clear. It is open, and free to all, and not alone is it a privilege, but a duty, for *all to labor zealously for higher attainments.* If we would secure even the necessities of life in our avocation, say nothing about affluence, we must labor for *proficiency.* If we would secure an identity in society, we must labor, so that the work we do prove a benefit and a blessing. Let it not be said that "our patients were the victims of our ignorance" Guilt will surely follow, and it ought to, when so much light stares us in the face. Give them rather the benefit of a studied judgment. Labor to alleviate pain and increase happiness. These dental operations (aside from necessarily painful ones,) will not be considered barbarous and hideous as they so often are. Then will the hearty shake of the hand, and the smiling countenance of benefited patients, aid in making ours a *pleasant* rather than an *onerous* calling.

And, in conclusion, let me urge upon you the importance of *co-operating*, of *associating* our efforts for improvement. Cultivate a great degree of *sociability.* Get down off your high horse, *self-sufficiency.* Throw aside *prejudice.* Banish the idea that you have a secret and are going to get rich upon it. *Honor and eminence never reward such a course.* If you are the fortunate owner of a valuable improvement tell it to your brother dentist, and let it benefit him, and thereby benefit your profession; for it is a noble one, and worthy of all your efforts to secure its eminence. Accept a responsibility, and act upon it; for he who would fill the demands made upon the dentist in one day, must embody a versitality of knowledge and skill required by few other professions. We have chosen it as *our profession.* Let us see to it that we assume nothing. Let us become masters of our situation.

ASHLAND, Oct. 31, 1865. N. J. C.

ADDRESS.

BY DR. GEO. L. PAINE.

Read before the Mad River Valley Dental Association.

"To save is better than to destroy." The indestructibility of matter is an axiomatic principle of philosophy. Nothing is ever wasted in Nature's great laboratory; but everything is turned to practical account. True, new forms are assumed, and new combinations arranged — yet, *not* a particle of matter is ever lost, The leaf performs its functions in its season — then withers — dies — drops to earth and turns to dust — each particle thereof, though lost as a leaf, is *not*, therefore, lost as to its ultimate particles, which are imperishable. So of its parent, the tree. So, of all material things. While changes are going on incessantly in the laboratory of nature, there is no destruction of matter: it is eternal, as is its Maker, God. While we are taught on all sides that nature is a great conservator, let us imitate her and try to be conservative, as a profession, rather than destructive Our art, unlike sculpture or painting, which genius impresses on marble and canvas, and is to some extent imperishable — has to deal with perishable materials, and must therefore, as to real benefits be temporary; hedged about and hampered as it is by decay and mortality. Yet, dental art should be more conservative than it has been — than it is — than we fear it will be. Higher skill, broader culture and conscience must have a more lively existence among the dental profession; then the elysian period shall have been reached; our patients will be so taught to educate their children as to secure for them sound dentures, and to keep them so, through life. In this golden age — if attained — the forceps will rest in idleness, instead of being kept bright with active service; the vulcanizer, the great center of attraction with most dentists, will be regarded as an heirloom of a past generation. The preservation, not the extraction of a tooth, will then, as it should now, enlist all the energies of the devoted and conscientious dentist, who, with the co-operation of his patient, whom he has well trained, will be able to succeed in saving from the rapacious jaws of the bloody forceps.

When a community are taught, by whatever means may be employed; whether by tracts, or brief essays published in the daily or weekly papers; how to live; how to take care of their pearls of great price; if any member of the dental circle is on the sick-list, from any cause; for instance, from a wound received in an engagement with a refractory particle of matter in the food, which it is his allotted duty to grind, or, from a cold, caught because of a deficiency in his outward apparel; his health will be looked after with as much solicitude, as though the body corporate itself was the subject of disease.

When we are sick, we employ the most skillful and experienced talent — the most careful nurses, and leave no means untried, to aid nature in throwing off the disease. So our people should be taught to act with regard to their teeth — not to take them to some itinerant mountebank, or tooth assassin, whose only cure is extraction — but the ailing organ should be submitted to the care of an experienced and enlightened and conscientious dentist, who labors, *primarily*, for the good of his patients; and *secondarily*, for himself. The province of such an operator is to *save*, and he will succeed, other things being equal, having the hearty co-operation of his patients, whom he has duly trained. His patients are not only amply compensated for the fee, however liberal, which he charges for work *faithfully* done, but for the advice which he gives, which, when followed, is above all price. This sketch, we admit, borders more on *ideality* than *reality*, nevertheless, it is such as we should daily study and adopt to the extent of our ability.

We must elevate the standard of our professional education and conduct, and demand higher and still higher qualifications of those who are practicing, or preparing to practice our specialty. We require stimulating and guarding *constantly* — else we retrograde. We need to be often reminded of our duty to our patients and to each other — else we neglect it. We must become students — otherwise we remain mere mechanical dentists. We must study, or we make no progress — and then will be left behind by our more ambitious brethren. We either advance, or fall back. The world moves! — so must we, or be left alone to fossilize and rust from torpidity and inaction. Where would the lawyer land, if he neglected to keep pace with his brethren at the bar? Where the physician? Where the theologian, and where the teacher? Failure would be the result! They would all go to the tomb of the capulets, "unwept, unhonored and unsung." "There is no royal road to Geometry"— the way is hedged about with difficulties and obstacles which can only be surmounted by patient toil and study. Books, lectures, essays and studies, are the finger boards, pointing out the only safe way; if *these* are ignored, we are liable to miss the way — go astray, and get lost in the wilderness of ignorance. We therefore, exhort you all, my brethren, to buckle on your armor and determine to accomplish something noble for yourselves and the profession. That you may be live men and not drones in the dental hive. When we are thus actuated, we may reasonably expect that our profession will stand side by side with the other learned professions. Nothing but solid attainments can elevate us. Mere skill, as operatives, however praiseworthy, may give us a local name and fame, but nothing more. There must be a union of science and skill to produce immortal results.

What has elevated, ennobled and dignified the medical profession, and given it so much power and influence? Science. Who occupy the highest and most lucrative positions, both in the medical and dental professions? Those who read, study, write and think the most. Who wield the most influence in the learned professions? Those best educated and most studious.

Let us, for a few moments be permitted to take a bird's eye view of our profession — the qualifications, standing and deportment of many of its members. Have a majority of those who are wielding the forceps and excavator passed through that curriculum of study and training, at Dental Colleges for instance, which qualifies them for the proper discharge of professional duties? About 10 in 500, the statistics say. This is about the proportion. How many have ever read and digested the text books of our specialty? — to say nothing about Anatomy, Physiology, Pathology, Surgery, Chemistry, &c. How many dentists *among us*, own, and have read and digested the volumes of our periodical literature? Few, we apprehend. We are sorry to say it — but truth demands it at our hands, that many dentists, *among us*, are not much given to reading — not much devoted to study — and less to writing. The information that many possess, touching the great principles that underlie our profession, is meagre in the extreme — such as may be picked up in any office by any ordinary observer. For instance they know, some of them — that incisors have one root — superior molars, three —inferior molars, two — that a cavity of decay, provided the nerve is not exposed, must be cleansed of carious matter previous to filling, and so shaped as to retain the same — that an aching tooth must be extracted and that the chief end of the dentist is to make artificial teeth. The ambition of men of this ilk, take an exclusively mechanical turn, and runs wholly in the direction of artificial teeth — albeit they announce themselves as M. D's and Surgeon Dentists. Their forte is by much nice talk, and a good deal of "soft solder" to persuade their credulous patients to have their teeth extracted, so they can insert new ones — a much easier task for them than to insert good *gold plugs* in the natural teeth, whereby they might be saved. Their advice is taken, and their pockets are filled with greenbacks, and their patients mouths with rubber and dental crockery. Thus is our noble profession demoralized—prostituted to bare ends by the demon of quackery, which flourishes most in him whose brain is poverty stricken, and whose soul is as barren as the sands of the desert. What do these fellows do for the good of humanity? What care they for humanity? Do they try to preserve God's beautiful creations? Are they not rather vandals ? — entering with defiled hands and bloody garments the "holy of holies" — despoiling and overthrowing the beautiful works. Creative conservative dentistry is not their end or ambition. Their dentistry is radical. They prefer not to bother their heads with the laws of Physiology, and Pathology — they ignore nerves and abscesses — with them, the fate of a tooth is sealed when it aches — or periostitis is developed. The rules of science is to them a sealed book. They require about as much of it as the cooper or shoemaker. They pride themselves on what nature has done for them; as we heard one of them say once, when asked if he had attended a course of lectures in a dental college. He has since quit the business, having failed to satisfy the public, and make a decent living and gone to preaching, in which vocation he succeeds much better. These men are mere copyists, doing parrot like, whatever they undertake; and whatever of good they may be guilty of doing, is due to the seed sown by some one, who was not too lazy to study—who was not too wise in his own conceit, to learn — who burrowed into the mine of knowledge and appropriated everything that could possibly aid him, in his efforts to aid, and ameliorate the condition of his fellow men. Such a man feels prouder of a victory achieved over a rebellious tooth, which he has saved from destruction and the forceps — than of a finely finished and well adapted set of teeth. The former is a triumph of science and high skill; a feat that puts him on an equality with physicians and surgeons, and justly entitles him to the appellation of "Dental Surgeon;" while the other is simply a piece of mechanism, demanding no higher skill than that employed by the tailors, whose beau ideal is "perfect fits."

But little learning is required, now-a-days — when gold is out of fashion, as well as the workers thereof — to make a set of teeth, when vulcanite work is all the rage — when sets of teeth, as the posters innumerable inform us, as well as the pine shingles tacked to telegraph poles and gate posts all over the country advise us, can be made by the aid of steam and gas for Ten Dollars! Secundem artem—Blessed Era. People can now get their teeth extracted by lightning and made by steam—all for Ten Dollars. Who would *not* have his teeth all pulled out? To set up in business, only a three months' apprenticeship, a vulcanizer—a box of rubber and a grindstone and plenty of gas are necessary Then if patients don't come in they go for them. May God save us from the doom, degradation and disgrace that surely await us, as a profession if this mode of business obtain in this land—let us expose the quackery and ignorance of those men, whose breath is poison, whose touch is death! Gentlemen, we say it in sorrow that the status of many of the profession in *our* valley is low, vile and disgraceful, and should be improved, elevated. There are in our circuit some 50 or 60 dentists, in a neighboring city there are some 16 in active practice; here 6 or 7, of these how many are here—how many *ever* attend any dental meetings, or manifest any sort of interest in the progress or welfare of our calling. We must work a revolution in this matter, and create a public sentiment that will drive these men here or drive them out. While we are, out of respect to Truth, obliged to make such a humiliating statement respecting the status of dentists within our bounds, we are glad to affirm that there are suns and stars in our dental firmament, with noble families of satellites revolving around them—men who would honor any of the learned professions by their scientific attainments—who would elevate any calling by their skill, and adorn any social circle or community by their manly bearing, honorable conduct and gentlemanly deportment.

The normal and conservative practice of dental surgery is a noble vocation, which numbers in its ranks men who stand high for their skill and extensive and varied attainments. Their work will live after them not only in the dentures of their grateful patients, but in the pages of our professional literature.

Let us be conservators of our profession. Let us determine that our practice shall be normal—that we *will try* to do good and not evil, *knowing* by that we will try to save instead of destroy. Possibly we may not have so much money when we are ordered to ground arms; but we shall hope to have, instead, *clean money* and a conscience void of offense, both in the sight of God and man.

How many of us are purged of the filth and dross of an irregular radical practice? How many of us are so thoroughly grounded in the faith of an honorable code, that we would suffer want rather than do wrong to a patient or dental brother.

Proceedings of Societies.

CENTRAL OHIO DENTAL ASSOCIATION.

The first semi-annual meeting of the Central Ohio Dental Association was held at Wooster, on the 14th and 15th of November. The following members were present: Drs. Jas. Armstrong, Bucyrus; M. DeCamp, Mansfield; A. W. Maxwell, Galion; D W. Smith, Shelby; H. J. Cressinger, Ashland; J. M. Rhodes, Wooster; Wm. Mitchell, Mansfield; C. M. Kelsey, Mt. Vernon; and Wm. E. Dunn, Delaware. The following being duly proposed and elected were received as new members: Drs. J. B. Beauman, Columbus; D. B. Cressinger, Upper Sandusky; J. D. Moody, Dalton; H. C. Fowler, Columbus; J. W. R. Myers, Wooster, R. McDowell, Wooster; J. Boyer, Orrville; B. J. Jones, Wooster; B. F. Barclay, Dalton; H. M. Edson, Mt. Vernon; E. Chidester, Massillon; Jno. R. Suingly, Bucyrus; M. A. Spencer, Doylestown, and A. R. Lord, Shelby. The name of J. T. Wisner, Wooster, was duly proposed, but on ballot, he was rejected as being unworthy to become a member. Dr. Pierce, of Philadelphia, agent for Rubencame & Stockton, was elected an honorary member. The first session convened in Arcadome Hall at 1½ o'clock P. M. President, Dr. J. Armstrong in the chair, minutes of the last meeting read and approved. The committee appointed for the purpose at previous meeting, presented a set of by-laws and rules of business and order which were received and adopted.

An essay was read by Dr. H. J. Cressinger, subject, "The Province and duties of the Dentist," for which he received a vote of thanks, and a copy requested for publication in the "Dental Register."

Dr. Maxwell was gratified with the essay, and hoped there would be a free expression of opinion on subjects introduced in it. He urged the importance of regarding dentistry as a "fine art," and hoped more attention would be paid to obtaining artistic effects in inserting artificial teeth. By careful study of the case in hand, much of that mechanical stiffness and regularity, so common, could be avoided, and much of the natural contour and expression restored to the face; giving, in brief, some hints for accomplishing these results, by building on and increasing the thickness of the rubber work—particularly above the cuspids and molars to any desired fulness. As we must all render an account for the manner in which we have improved our knowledge and opportunities, it becomes us to be faithful and conscientious in the discharge of our responsibilities as dentists, objected to the term "job work," used in the essay, preferred mechanical or artificial dentistry.

Dr. DeCamp—did not wish to criticize the essay—was much pleased with it, and hoped it might have the effect to draw us together, and create a feeling of love for the profession, and good will toward our professional brethren: hoped every member would feel free to express his views on any subject suggested by the essay, and especially urged the young men to take hold of the work and overcome their timidity.

Dr. Boyer—was particularly pleased with the part of the essay, urging and encouraging friendly feelings among dentists. The mission of the dentist is to benefit humanity, and his responsibilities are great and his opportunities for doing good are not surpassed by those of any other class of professional men; he should therefore be a good man, honest and faithful in the discharge of his duties.

Dr. Kelsey—was just recovering from severe indisposition, had not been able to attend to business for several weeks, but could not stay away from this meeting; did not wish, or feel able, to talk much; hoped there would be a free discussion on any subject brought up; would like to hear from Dr. McDowell, as the oldest member of the profession present, and as a representative of the vicinity in which our meeting is held.

Dr. McDowell—was quite unwell and did not wish to speak on the essay, but was much gratified to see the good feelings manifested here; hoped and believed this association would accomplish much in creating a better state of feeling in the profession than has prevailed in our midst. Dr. Rhodes called attention to the subject of making fillings in cavities flooded with saliva, wished to hear the experience of members in regard to such operations.

Dr. Boyer—had no experience in making such fillings, has an inferior molar in his own mouth, which was filled by Prof. C. A. Harris, twelve years ago; was entirely flooded when the operation was done; is good and doing well yet.

Dr. McDowell—cleansed and formed the cavity as usual, and used a block or pellet of foil as large as could be introduced into the cavity, which he placed in position and packed firmly before it got wet, if possible, and then packed the best he could till full; sometimes succeeded quite well.

Dr. DeCamp's method was similar to Dr. McDowell's, but when the mouth filled with saliva, would allow the patient to empty it, and then proceed with the operation, always using non-adhesive gold in the wedging principle.

Dr. Kelsey—did not suppose it was designed to convey the idea to the younger members; that it was a good plan to make fillings under water; thought we should use every precaution within our reach, to avoid and prevent the overflow of saliva; had never had good or satisfactory results in making submerged fillings—they would generally "crumble out beautifully."

Dr. Dunn—used the wedge and napkins to prevent the saliva from flowing into the cavity. In reply to question, did not find the wedge caused inflamation of the periosteum, used tinct. of arnica to prevent inflammation.

Dr. BEAUMAN—used bibulous paper to close the ducts, napkins and the wedge, and when necessary the tongue compressor, and by these means succeeded very satisfactorily in keeping the mouth dry.

DR. MAXWELL—believed filling might be made of non-adhesive gold under water, which would be sufficiently compact to stay in and preserve the tooth for years, but did not think it practicable to make fillings of adhesive gold when wet, though, by way of experiment, had, ten years ago, filled a lower molar and built up a portion of the crown with sponge, nearly the whole operation done under water, the filling had preserved the tooth and is still pretty good.

DR. DECAMP, in reply to question, preferred low numbers of foil.

DR. EDSON—thought more depended on having the instruments used for packing the gold in good condition, than in the number of the foil; they should be sharp and smooth; uses a plate of copper with oil and emery as a bone to dress the points of pluggers, to take off the wire edge made in filling. Adjourned to meet in the office of Rhodes and Myers at 6½ P. M.

EVENING SESSION.

Miscellaneous discussions continued.

DR. EDSON asked for the experience of members in different methods of annealing gold.

DR. RHODES—heated over stove and found the results more favorable than by any other method.

DR. MCDOWELL—used a thin plate of Platina to lay the gold on and heated over a lamp or on a stove.

Dr. DeCamp also used a Platina plate to heat the gold on —folded and cut the gold previous to heating, being careful to keep the pieces separate, or they will adhere to each other and be troublesome to handle.

After a considerable time spent in the election of members and the transaction of other business, the subject of deciduous teeth was taken up.

Dr. DeCamp considered it a subject of too great importance to be passed over in silence; thought it had received too little attention from parents and physicians, and even dentists. The deciduous teeth were generally regarded as of but little importance, as others would take their places when they were shed, or if painful from decay or any cause, they were extracted. Thought they should be retained in the mouth if possible, until the development of the permanent teeth required their removal; believed this end could be accomplished in most cases by proper treatment and filling; did not know how teeth, which were decayed to the gums and inflamed or ulcerated, or with the roots penetrating the gums excoriating the lip, could be saved or retained, and usually extracted them.

Dr Boyer—has practiced filling deciduous teeth with os-artificial with medium success. When pulp was exposed, sometimes filled over a cap and sometimes destroyed pulp and filled; but his success in such cases was not so good as he could desire; regarded it as being very important to save these teeth as long as possible, as cases occur where they are not shed till long after the usual time, and sometimes not at all. Mentioned a case he had recently seen, where both the deciduous and permanent teeth were in position in the arch, making a complete double row of teeth in the anterior portion of the mouth. Believed that diseases of the teeth were hereditary.

Dr. Dunn extracted childrens' teeth with great reluctance, thought much injury and sometimes permanent deformity, was occasioned by the too early extraction of these teeth.

Dr. Beauman—said, as a general thing, cases of diseases of childrens' teeth were presented to the dentist too late to admit of successful treatment for saving them—owing to ignorance of parents and physicians. Had recently had a case in his practice, where a physician had, for three months, treated a child for sore lip, caused by the roots of the incisors penetrating through the gums, without, in all that time, knowing the cause of the disease. He had effected a speedy cure by simply extracting the roots. Dentists should study the subject more, and improve every opportunity and use every means, within their reach, to enlighten parents and community in regard to the importance of giving care to childrens' teeth.

Dr. Armstrong—mentioned a case which had come under his observation, in which a child, at the age of a year and a half, had met with an accident, by which a number of teeth were knocked out, as the permanent teeth were never developed, he supposed their germs were so injured at that time as to stop their growth.

Adjourned to eight o'clock next morning.

SECOND DAY.

Met at 8 o'clock A. M. in the office of Drs. Rhodes and Myers. The attention of the association was first given to a clinic operation in filling, performed by Dr. Beauman, assisted by Dr. H. C. Fowler, in the use of the mallet, having for a subject our worthy President. The operation, which was a difficult one, was very skillfully performed. The Dr. used sponge gold, which he prefers for making adhesive fillings; he also accomplished the operation with explanations of his mode, and answered all inquiries of members, affording much valuable instruction to all who witnessed it. The remainder of the session was principally occupied in discussing the subject of dental fees, which resulted in the adoption, by the association, of a fee bill. On motion a special meeting was appointed to be held in Delaware, Delaware Co., on the 26th and 27th of Dec.* Adjourned at 12½ o'clock. All who were present seemed to feel that the meeting had been a very pleasant and profitable one.

A. W. Maxwell,
Secretary.

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* By a vote of the society the Secretary was ordered to furnish a report of the proceedings of the meetings for publication in the "Dental Register."

Selections.

DOUBLE FRACTURE OF THE INFERIOR MAXILLA

BY J. L. WYLIE, M.D. RIPLEY, O.

On the 19th of June, 1865, I was hastily called to visit a gentleman some six miles distant, who had been thrown from a loaded flour wagon, the hind wheel having passed over the Inferior Maxilla. Upon my arrival I found him entirely conscious, but laboring from the violence of the shock which his system had sustained. An examination of the jaw revealed a fracture of each side at the junction of the body and ramus compound and comminuted upon the right, transverse and compound upon the left. There was great contusion of the right shoulder and side of the neck as well as of the soft parts of the chin, defining the course of the wheel; the treatment adopted was as follows: Splints of paste-board were moistened in water, enveloped in cotton and moulded to the jaw of each side; the superior extremity pressing firmly against the glenoid process, the inferior extremity reaching the mid-point of the body. A four tailed bandage was used for the purpose of supporting the jaw as well as for maintaining the splints *in situ*. In addition to this a sub-mental bandage was used for the purpose of giving support to the jaw as well as to keep the anterior surfaces of the fractures sufficiently depressed. Owing to the anatomical conformation of the parts, there was in this as in similar fractures, but little displacement. The chief barrier to a successful issue consisted in maintaining the position of the parts. This was without great difficulty effected by means of the simple dressings used without resorting to the more cumbrous and uncomfortable dressings frequently had recourse to in maxillary fractures.

In the course of twenty-four hours from the adjustment of the fracture great swelling and congestion of the soft parts supervened, in consequence of the fracture itself as well as of the contusion effected by the wheel. Owing to this condition the patient was entirely unable to swallow fluids of any kind, and asphyxia would be inevitable if the swelling could not be alleviated. At this juncture a large blister (emp. canth.) was applied to the posterior surface of the neck with the effect of alleviating the swelling. Notwithstanding the patient was robust and plethoric venesection was not resorted to for the reason that union of the right if not of the left side would not probably be effected without suppuration on the account of the comminution, and that owing to that surmised condition, the treatment of nurturing his energy would be more plausible than that of combating an imaginary *sthenia.* As was surmised, suppuration of both sides occurred without any detachment of osseous spiculæ. The pus, constantly of a laudable nature, escaped externally, the wounds kindly healed, the patient speedily gained health and the jaw is now in *statu quo.* Subsequently to the union of the fractures, a swelling occurred upon the right side of the neck, and despite the most energetic revulsive treatment, suppuration occurred, which was indicated by chills, fever, etc., the usual concomitants of extensive suppuration. It will be proper to remark *en passant,* that this effusion, swellings, etc., were the results of the contusion at the time of the accident and related by no continuity with the maxillary fractures. On account of the depth of the pus, the *positive* evidences of suppuration were not discernible, and with the view of revulsion if pus did not exist or with the view of promoting suppuration if it did exist, a blister was applied over the swelling with the effect of transposing the presumptive symptoms for those that were positive. A free opening gave exit to an abundant quantity of offensive pus. After its evacuation, adynamic symptoms speedily gave way to those of convalescence. Owing to the removal of the patient without the circuit of my practice, I was kindly and ably assisted in the after-treatment by Dr. W. A. Dixon.

There are, undoubtedly, points of interest attaching to this case. In the first place, the extent of the fractures; Secondly, the complications from the contusion of adjoining structures; Thirdly, the complete union of the compound comminuted fracture without the detatchment of bone; Fourthly, the precise preservation of the symmetry of the parts, and we might add; Fifthly, the rarity of similar cases in civil fractures.—*Cin. Lancet and Obs.*

ANÆSTHETICS.

An anonymous writer, in a communication to the *Boston Medical and Surgical Journal* (September 7), asserts that the safety of *inhalations of nitrous oxide* for producing anæsthesia, and objecting seriously to its indiscriminate use by ignorant and unskilled (dental?) practitioners, urges a trial of it by professional men.

"When properly prepared and properly administered, we cannot but regard it among the safest of inhalants. That prepared by ourselves we have inhaled to entire anæsthesia *one hundred and ten* times during the past ten months, with a very perceptible improvement in our general health, while we have given this gas to others for sanitary and anæsthetic objects some three hundred times in the same period; and in no single instance do we remember meeting with the least unfavorable result. In certain dental establishments in this city it is almost, if not entirely, used for anæsthesia. The proprietor of one of these recently stated to us that it had been employed by him for anæsthesia in nearly eight thousand cases, with not a serious result.

But by some it is urged that, while perhaps safe for brief anæsthesia, this cannot be predicated of the gas in protracted operations. In at least three instances, we have known entire anæsthesia maintained during the surgical operations lasting from four to seven minutes, with the most happy effects on awakening. Others assure us of success with this in cases of anæsthesia much more protracted. From what we have heard and witnessed ourselves, we have reason to believe that entire insensibility to pain may be safely maintained for a longer period than with ether or chloroform. This may be inferred from the vitalizing character of nitrous oxide, which maintains the temperature and pulse by oxydizing the blood, while it is well known that the effects of ether, or more particularly chloroform, are the reverse of this.

To be safe, nitrous oxide, like chloroform, should be properly made and administered. In making this gas, we employ an automatic regulator of the heat, confining the nitrate of ammonia in the flask to a temperature scarcely above 400 degrees. The results of decomposition at this point are quite different from those where the heat of the salt is fluctuating, rising at times to 500 degrees, and even to 600 degrees, as is common by the ordinary process of heating. Thus prepared, the gas in its passage to the gas-holder is forced through five one-and-a-half gallon glass washers, filled with an alkaline solution and pure water; each washer being provided with perforated glass tubes for finely dividing and washing the gas. Thus five distinct plunges are made through as many feet of water, when the gas is passed into a zinc receiver, where it is confined over water. This whole process is simple, safe and economical.

For inhaling we employ an improved valved apparatus, drawing the gas directly from the zinc holder and exhaling into the open air. With this arrangement perfect anæsthesia in its most agreeable form may be produced, while even the most sensitive suffer not the least inconvenience."

Dr. Nunneley, of Leeds, brings forward two new anæsthetics as substitutes for chloroform, the *bromide of ethyl* and the *chloride of olefiant gas*, each of which he believes to possess important advantages over chloroform. They both act speedily, pleasantly and well. The patient might be kept insensible for any length of time, while the most painful and prolonged operations were being performed. No disagreeable symptoms had, in any case, resulted from their use. The original difficulty and cost of their manufacture has been overcome, and, should their use become general, they can be made at a cost not exceeding that of chloroform, if not at less.—*Amer. Jour. Med. Science, Oct., from Medical Times and Gazette.*

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The Preparation of Pure Chloroform.—M. Adrian (Bull. de Thér, lxvii, p. 357) referring to the fact that impure chloroform has but little anæsthetic power, and pure chloroform is but seldom to be had, remarks, that among the many impurities, alcohol, hydrochloric acid, ether, different combinations of methyl, aldehyde, etc., some are easily detected, others, more similar to the chloroform, with greater difficulty. Chloroform is, according to Subeiren, free from alcohol, when it sinks in a mixture of equal parts of water and sulphuric acid; but only when considerably adulterated does it float on top. Others recommend chromic acid as a reagent, which, when alcohol is present, gives rise to a green color; Letheby recommends albumen, which, in the presence of a very small quantity of alcohol, coagulates. But the most noxious adulterations are the very ones most difficult to detect by the ordinary reagent, and to separate. Thus Adrian found, although he had apparently pure chloroform, free from the admixtures mentioned, that its boiling point and its density did not correspond to those of the genuine chloroform of Liebig and Subeiren, in consequence, certainly, of the presence of other (chloric) combinations of methyl. Adrian, therefore, proposes the following process for the preparation of pure anæsthetic chloroform: 1. Washing it with water, to separate the alcohol, until chromic acid no longer reacts and recently prepared nitro-sulphuret of iron is no longer dissolved. By this means the aldehyde present is also removed. 2. Adding to the chloroform so treated a weak solution of soda, to free it from chlorine, hydrochloric acid and the acids of chlorine of lower degree. 3. Digesting it for 24 hours with chloride of calcium, to remove the water. After this process it must evaporate without a residue, and can be used as an anæsthetic; but it is prudent first to determine its density and boiling point. If the latter still exceeds 61 degrees C. the chloroform must either be rejected as unfit for anæsthetic purposes, or be rectified once more.—*Schmidt's Jahrb*, 1865. *No.* 2.

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Reported J. W. P. Bates, M. D.

NECROSIS.

Boy, æt. 17. The term necrosis implies mortification of bone. Bone mortifies like soft parts; perishes from diseased periosteum; often dies, as a result of scrofulous inflammation. Bone is vascular, and invested by a vascular fibrous membrane, called the periosteum, which bears the same relation to bone that bark does to a tree; when a bone is fractured, this membrane is torn. It is also lined by an areolar vascular membrane, which is sometimes called the internal periosteum. This internal membrane is quite sensitive; the medulla itself is not sensitive. The bones are vascular, but depend upon the blood vessels they receive from the external or internal periosteum. When, by progress of disease, a portion of these membranes is stripped off, the bone perishes, and we have necrosis. We have a familiar example of this in the common felon—matter forms beneath the theca of the tendons, and the bone dies. The long bones are most generally affected, When matter forms between external membrane and the bone, it is very likely to occur on internal membrane also. When the matter is discharged, the patient gets immediate relief, but the bone is dead and is called sequestrum. Its extremities are very irregular ; and it is an inevitable result that dead bone will separate itself from the living. It may maintain its form and office, but in course of time it must become detached. For a time, continuity is complete, but after a while it separates, and if no provision were made for such a contingency by nature, we would have spontaneous fracture, and in some rare instances this does occur. The process of repair in these cases is analogous to the repair of fractures. The detached periosteum pours out callus, which surrounds the dead bone. Always suppuration wherever dead bone is present, and there will be fenestra for the discharge of the matter, and through these we can touch the sequestrum, and may introduce strong forceps and extract it. Sometimes it may come out by the efforts of nature alone, but in a great many instances it is necessary to cut down on the callus and chisel away the new bone, and extract the sequestrum, or break it. The cavity will fill up and the external callus will be absorbed to a considerable extent, but there almost always remains some enlargement. Necrosis rarely extends into a joint, because the head and shaft of a bone derive their vascular supply from different points ; it is also dependent upon the different points of ossification. When it occurs in cubical bone, as in this case, there is not that vital distinction between extremities and shaft, and is more disastrous in its effects, more likely to penetrate joints, and not so well circumscribed.

Here the astragalus is diseased. On introducing a probe, I think I feel dead bone. We will cut down upon it, and even if it is not in such a condition that we can extract it readily, the incision will give relief by relieving tension, and the loss of blood will deplete the parts of some of their superabundant blood. I do not expect to find a great amount of loose bone. A small piece was extracted. We will have this wound packed with lint, to keep it expanded. Carious bone may be all that is remaining—this corresponds to ulceration of the soft parts—and to counteract this, we will inject with a solution of muriatic acid, from time to time, which will dissolve the earthy matter, and make a salt soluble in the discharges, and easily got rid of in this way.

Nov. 8. Case doing very well—not so much pain as he had. Seems somewhat weak, so we will order

R. Syr. ferri. iod., gtt. xx., ter die.

Punch has recently informed his readers that *Io dide* of Potassium. *Vanity Fair* told the American world the same thing four years ago; and "Meister Karl" claims that he was the first who discovered a chemical formula in the Bible, where water is correctly described as consisting of Hydrogen and Oxygen in the text, "HO every one that thirsteth!"

NITROUS OXIDE AS AN ANÆSTHETIC.

The use of nitrous oxide gas as an anæsthetic in surgery appears to be rapidly increasing in favor. In a number of capital operations, recently performed in this city, it has been satisfactorily used, and the anæsthesia being as complete as that from ether or chloroform.

At one of the clinics of the Ophthalmic Hospital, Dr. Levis remarked that, in the present state of information in regard to its anæsthetic effects, and with the inefficient means of administration, he thought its applicability to surgery very valuable, but limited. It is yet to be determined whether insensibility from nitrous oxide can safely be prolonged during operations which require much time for their performance. The continuance, too, of anæsthesia while inhalation is effected with the usual tubular mouth-piece, requires the voluntary effort of the patient, which may not always be attainable, especially with children and with persons making resistance under temporary excitement. He believed that it might well displace ether and chloroform in most operations of short duration, and in this class could be included the amputations. A decided advantage, particularly for administration at the clinics, is the rapidity with which anæsthesia is induced, and also the speedy revival of the patient without depression or nausea.

In many operations in ophthalmic practice it is applicable, but for the operation of extraction of cataract its anæsthesia has not the relaxed and tranquil character which is desirable.

The preparation of the gas by decomposition of the nitrate of ammonia by heat, and its subsequent purification, are simple, and the cost is probably not one-fourth that of other anæsthetics.

The present intelligent attention to the subject will soon give a proper appreciation and fix the status of nitrous oxide as an anæsthetic, but we can already, from the present evidence, commend it to practitioners for its safety, agreeableness to patients, rapidity of effects, and economy of use.

For a knowledge of this remarkable agent in all its bearings, we refer those who are interested, to the exhaustive monograph on "Nitrous Oxide," by Dr. ZEIGLER, recently published in this city.

PHENIC ACID AS AN ANTISEPTIC.—Experiments have been made to show that the miasmata from putrefying substances may be rendered harmless by means of phenic acid, since it prevents or puts an end to spontaneous fermentation. A piece of perfectly fresh meat was placed within about two yards of one in a state of putrefaction. In eight days it was found merely to have begun to dry, the phenic acid had destroyed the miasmata, so that they were not transmitted by the air. It has been concluded, from these and similar results, that phenic acid is a powerful anti-pestilential agent, and it is considered extremely useful in places where cholera or other infectious maladies prevail.

A NEW BLOW-PIPE.—A novel blow-pipe is thus described: "Hendy's blow-pipe consists of an ordinary blow-pipe nozzle supplied from an india-rubber bag. The main portion of the blow-pipe has a flexible mouth-piece connected with the bag by a joint, at which a valve is placed, which is opened when the operator blows, and closes immediately when he ceases. By this arrangement the little bag or bladder is readily filled at a single breath, and with very little exertion.

When so filled, a continuous current of air is forced from the nozzle of the pipe by the mere contractive force of the bag. This is easily turned in any direction as required, by means of the flexible tube to which it is attached."

A SIMPLE, SAFE AND EASY MODE OF PREPARING OXYGEN—is described by Dr. Reynolds. (*Brit. Phot. Jour.*) It is based on the decomposition of hypochlorite of lime in the presence of peroxide of cobalt. The former he obtains from bleaching powder, or "chloride of lime," by extracting with cold water. The peroxide of cobalt is prepared by precipitating a solution of nitrate of cobalt with this solution, until a precipitate ceases to fall, and washing with water. The peroxide produced from one ounce of the nitrate is added to a concentrated solution of two pounds of bleaching powder (in one quart of water) in a generating bottle, and the evolution of oxygen proceeds at once "with great regularity, but the gas comes off in a very rapid stream if the generating vessel be immersed in warm water at a temperature of about 100° or 120° Fahr." The oxygen thus obtained is said to be very pure. The process moreover is economical, for *all* the oxygen of the hypochlorite of lime is given off, thus:

E.

$$CaO,ClO=OO+CaCl.$$

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NECROSIS OF THE JAW FROM DECAYED TOOTH.—Man, 47. Here there is a fistulous opening about midway between the angle and the symphisis of the lower jaw. This man has had this disease for two or three years, and it came from a diseased tooth. Was an alveolar abscess in the first place; these abscesses are often productive of a great deal of trouble. I have seen them extending as far down as the clavicle, and cured promptly by the removal of the tooth. They are very often improperly treated; caustics are applied and stimulating applications, but they are useless so long as the cause of the malady remains. This presents no malignant character. On introducing the probe we touch the alveolar process.

These abscesses often follow disease of the teeth—the tooth becomes a foreign body and keeps up the irritation. The pus often makes its way into the mouth and no evil results; at other times it opens through the face and leaves a fistulous opening. It seems strange that a dead tooth should produce such an amount of injury, but as the tooth is dead it acts as a foreign substance does in any other part of the body. We will extract the tooth, which is so much decayed as to render extraction difficult; we will also remove all portions of dead bone. There is a carious surface left, but we will inject with acid. muriat. gtt x. aquæ f.ʒj. to dissolve the earthy matter. The last two molars are diseased, and I shall order their removal.—*Med. and Sur. Reporter.*

At a called meeting of the dental profession in the city of Lexington, Ky., to take into consideration such action as may be appropriate to the memory of our deceased brother and friend, Dr. W. R. Hodgen, Dr. A. S. Talbert was called to the Chair, and Dr. G. W. Priest requested to act as Secretary. The Chairman appointed Drs. R. J. Poore, J. Holmes, and J. J. Wilson a committee to draft such resolutions as would be appropriate to the occasion. The following preamble and resolutions were unanimously adopted:

Whereas, It has pleased an All-wise Providence to take from our midst, in the beginning of manhood, of social and professional usefulness, Dr. W. R. Hodgen—therefore,

Resolved, That we, the members of the Dental profession of this city, take pleasure in giving our testimony to the moral worth, genial disposition, and upright character of the deceased.

Resolved, That we tender the stricken family and friends our heartfelt condolence and sympathies, assuring them that through the evidence of his life, what has proven their loss, is his eternal gain.

Resolved, That the papers of our city and the Dental Register of Cincinnati, be requested to publish these resolutions, and that a copy of the same be transmitted to the bereaved family, by the Secretary.

A. S. TALBERT, President.

G. W. Priest, Secretary.

ORDER OF BUSINESS,

OF THE TWENTY-SECOND ANNUAL MEETING OF THE MISSISSIPPI VALLEY DENTAL ASSOCIATION.

1st. Report of officers.

2d. Election of officers, 10 A. M. 22d.

3d. Miscellaneous business. Reports of Committees in order at any interval in discussions.

4th. Essays or papers to be read on the opening of discussions.

SUBJECTS FOR DISCUSSION:

1st. Dental Materia Medica.

2d. Diseases of the teeth; Dental Physiology and Pathology.

3d. Filling teeth; methods and materials used.

4th. Dental Specialties.

5th. Mechanical Dentistry; New Inventions.

6th. Dental Education; Relation of Preceptor and Student.

G. W. KEELY,
J. P. ULREY,
J. G. VAN MARTER. } *Committee.*

MICHIGAN DENTAL ASSOCIATION.

ALBION, Jan. 1, 1866.

The eleventh annual meeting of the Michigan Dental Association, will be held at the Biddle House, in the city of Detroit, on Tuesday, January 30th, 1866, at 12 o'clock, noon, and will last three days.

It is earnestly hoped that the profession generally will turn out and give their hearty support to the advancement of dental science.

At the last regular meeting of the Association, the following resolution was adopted:

> *Resolved*, That it is the duty of every member of this Association to furnish, at the next regular meeting, an essay, on some subject connected with the profession, that shall be submitted to the Committee on Publication, to be circulated among the members of this Association.

You are requested to invite your friends, who are regular Dentists, to be present on this occasion.

Respectfully, G. W. STONE, *Sec'y.*

Editorial.

THE NEW YEAR.

We extend to all our readers, a Happy New Year's greeting.

The year 1865, with all its mighty events, changes, and vicissitudes, is of the things that were. It is profitable, perhaps, for all to look back over this page of time and see how the account stands, whether the credit or debtor column is the heavier.

Many, on looking back over the record, will be surprised to find that it has been by them kept so illegibly. The life of many is so aimless, and accomplishes so little, that so far as they, or those with whom they are associated are concerned, no clear record is made upon time's page, or even upon the tablet of their memory.

Every one should live, in such a manner, as to be conscious of accomplishing good in the world,—that his life is a continual succession of good acts.

He who lives solely for himself, had better never been born, at least to human appearance. Whatever the record of the past may be, good or bad, clear or obscure, the question is now presented to us, What record shall we make this year?

Such thoughts as these, may have a very wide range, and extensive application, but they are just as clearly applicable, to particulars, as to generalities. To us, as professional men, and as dentists, they are applicable. Have we, each one in his particular sphere, during the year which has passed, accomplished all the good in his power, or are we not, many of us, all the time consciously working upon a plain far below that we might occupy? Have we all embraced, earnestly, all the opportunities presented to us, for our progress and elevation, or is there not rather too much disposition to plod along in the old routine way.

The circumstances and conditions for the progress and development of our profession, are now far more favorable than ever before.

The American mind has undergone a training, eminently calculated to strengthen and stimulate to more vigorous action.

There will in the future be a concentration of renewed energy, that will produce unparalleled results, in every department of human action; he who does not come up to this point, will be accounted a drone—at least comparatively.

Let those who imagine that they have made all the progress that it is possible to make, take heed lest they are left in the dim distance behind; old things are passing away, and all things are becoming new; a glorious day is dawning upon us, let all be prepared to enjoy its brightness.

PROFESSIONAL LIBERTY AND RESTRAINT.

Every one has the right and should have the liberty, to do that which he can do well, provided he does not operate injury to any, but good to the largest possible number.

This rule strictly applied, would bring about us a different state of affairs from that which at present exists. In some things it is admissable for one to do that which he cannot well accomplish, but in *some* only. There are somethings in which none should be permitted to engage who are not competent to produce good results.

And certainly, in nothing can this be more certainly true, than of those who would assume to be in any particular the conservators of the health of their fellow beings.

In this country a liberty quite incompatible with the health and welfare of humanity is granted. Any one, with no preparation at all, or with the most false, and erroneous teachings, may go forth and assume the duties and responsibilities of the physician, in either general or particular practice, without let or hindrance, so far as legal barriers are concerned, at least so long as his operations do not result in palpable manslaughter.

This state of affairs exists to an alarming extent in the dental department of the healing art, though perhaps not more so than in some other specialties, or than in general practice, but in the dental profession it is more palpable to us.

Why he who knows nothing of the teeth, nothing of the care requisite for their preservation, less of the diseases to which they are subjected, and still less of the treatment necessary for their restoration, and still less of the multitudinous complications that modify these things, should be permitted to assume the duties and responsibilities of the dentist, we are unable to conceive. Ruin and death, of these precious organs of the human economy, the teeth, follow right along in the wake of such miserable pretenders. The health, and even the life, depends largely upon the teeth, and he who trifles with the teeth, trifles with these. No one should be permitted to perform the functions of a dentist, without the proper qualifications. But the people are not able to distinguish between him who is qualified, and him who is not, or at least till they have purchased this ability, by a sacrifice too grievous to be borne.

In the more ordinary avocations of life, those interested are able to judge of the qualifications of those who assume the offices and work of these avocations; for example, if a man builds a house or makes a piece of machinery and does either poorly, the fact is at once apparent to even the superficial observer. If the machinist makes his wheels of lead instead of iron, his boiler of zinc, instead of copper, or the best iron, his belts of linen instead of leather, every one will say all this is worthless, and no purchaser would be found for such machinery. And yet, far worse than this is done every day by those claiming to be members of our profession.

Not only that which is useless, but that which is vastly injurious, is constantly being done. Not one of a thousand of the people know what the qualifications of a dentist should be, and still a less number are able to determine whether the proper qualifications are possessed by one who is making a persistent effort in assumption and deception.

The thought often occurs to us, is there no remedy for this? The education of the people has been presented as one that shall correct this evil; this is necessarily a slow process, and at best can be made to operate only with a few, for a long period to come, and cannot at best meet the difficulty as it should be done.

Legal barriers placed across the path of the charlatan and the inefficient, have been suggested by some, and really we regard this, as a subject worthy of the earnest and immediate consideration of the profession. Upon one point all will agree, that a remedy is needed, and that immediately, that whatever is feasible and efficient should be adopted at once.

We see nothing impracticable or improper, in an enactment by the law-making power, that shall require, of every one who proposes to assume the duties of a dentist, to first obtain the proper evidence of his qualifications. To this we presume there would be none to object, (except the mountebanks) for certainly no honest man would desire to practice in so important a profession without the proper qualifications, and none who require the services of the dentist could object to such a requirement. The sick man would scorn to have an ignorant pretender for his physician, if he knew it.

Some such regulation would tend greatly to the advancement of the profession in its efficiency for good; it would sever from the profession an incubus and excresence that has hitherto clung to it with a death grasp, and very greatly paralyzed its power for good.

We hope the profession will examine this subject, and if it is thought feasible, do more than examine.

CENTRAL OHIO DENTAL ASSOCIATION.

We had the pleasure, within a few days, of attending the meeting of this body, at Delaware. There was a very good attendance, though quite a number of the members were absent.

We were really surprised to find the society in such good working order, and so efficient for good in so short a time after its first organization. It is but little over three months since its formation, and this was its third meeting. The members work with a zeal and energy that those of some of our older societies could, with decided advantage, imitate.

They enter upon their work with a will, that shows something must be accomplished. The subjects presented for consideration were practical, and pretty thoroughly discussed. Clinics were given, which were interesting and instructive. Great desire was manifested by the members to aid in any effort calculated to elevate the profession.

Professional elevation seems, just now, to be the "burden of the song," of all our dental associations.

This society will be productive of great good, in that part of the State where its effort shall be put forth, and we predict for it a long and bright career of usefulness.

MISSISSIPPI VALLEY DENTAL ASSOCIATION.

The twenty-second annual meeting of the Mississippi Valley Dental Association, will begin on Wednesday, the 21st of February next, at 10 o'clock, A. M., in the lecture room of the Ohio Dental College. There will doubtless be a large gathering of the profession at that time. There are still some of the older members remaining, who feel an interest in and attachment to this society, that they can scarcely ever expect to entertain for any other. It is the oldest dental society in existence. A few of the present members have been with it from the begining. The early associations thus formed, have left impressions that will never be erased; to them the meetings of this society come speaking of the vicissitudes and trials through which it has passed; they also bring back the memory of those much beloved brethren, who have in one way or other passed away from our midst, and are no longer with us.

We hope to meet all the members at this meeting, and all others who can make it convenient to attend.

The order of business proposed by the executive committee. will be found on another page of this number.

WHITE'S "UNIVERSAL PORTE POLISHER."

This instrument, with corundum points of various sizes and shapes, we have been using for some time as a valuable dressing instrument for gold plugs; it is a very valuable addition to our list of finishing instruments, and one that we prize very highly, and that we now would not do without, indeed no good operator can afford to be without some such instrument.

It has always been a matter of wonder to us how any one not in the active practice of the profession, can originate, and make so many useful appliances, as issue from S. S. White's dental establishment.

The remark is often made, "White has been successful;" yes he has, but it has only been attained as the result of merit, and indefatigable labor.

THE OHIO DENTAL COLLEGE ASSOCIATION.

This body will meet on Tuesday the 20th of February next, at 10 o'clock, A. M. at the lecture room of the college. It is very desirable that all the stockholders of the institution be present, as interests vital to the institution, will come up for consideration and action.

By virtue of the amendment to the charter, which was passed by the legislature last spring, it will devolve upon that meeting to elect a board of trustees, who shall have control of the interests of the college.

In the selection of this board, great care and wisdom should be exercised, for upon their action, to a large extent, depends its efficiency and usefulness.

These trustees will be chosen from the stock-holders, as it is to be presumed that they will feel more interest in the institution than those outside of the Association. Let every stock-holder be present, so far as it may be possible.

The college now seems to be entering upon a career of greater prosperity and usefulness than ever before. Let such measures be adopted, and means employed as shall secure still greater usefulness.

BIBLIOGRAPHICAL.

Instructions in the Manipulation of Hard Rubber, or Vulcanite, for Dental Purposes, by Prof. E. Wildman, of Penn. College of Dental Surgery.—This very excellent treatise upon this subject, has appeared at a time when it is very much needed.

The introduction of hard rubber as a base for artificial teeth, has become very general in the profession, and yet previous to this issue, there has been no full and concise instructions in regard to working it. Perhaps no one in this country is so well qualified to prepare a work of this kind as Prof. Wildman. Certainly none stand higher than he in that department of practice, to which he has given such close attention. He has completed a larger range of experiments upon the vulcanization of gums, than any other one in this country. This work is written in a clear, understandable manner; it is one that he who is seeking instruction in this department will easily comprehend, and prize highly; indeed we would recommend it to all who work rubber, or desire to do so, for the neat, systematic, and efficient method described in this work, very few in the profession work up to.

The work is published in a very neat form, by S. S. White, and may be obtained of him or any of his agents.

THE

DENTAL REGISTER.

VOL. XX.] FEBRUARY, 1866. [No. 2.

Original Communications.

DENTAL MATERIA MEDICA.

By Geo. Watt.

CALVERT'S CARBOLIC ACID.

THIS compound is but little known in the profession, and has, consequently, not received the attention to which its merits entitle it. I am not acquainted with its chemical formula. It being one of the many compounds resulting from the destructive distillation of organic matter, its analysis is tedious and somewhat uncertain. A freshly prepared article crystallizes at about 70°. At 90° to 95° it is entirely liquefied. Unless contaminated by combination with organic matter, it is nearly colorless.

PHYSIOLOGICAL EFFECTS. — Carbolic acid is a prompt, active escharotic. Its action depends on its affinity for albumen, with which it forms a white compound. Its action is much like that of creosote, but is more prompt, and, therefore, less painful when applied to soft tissues.

USES.—It may be used in any case when creosote is indicated. It is better than creosote as an application to indolent or apthous ulcers.

Chloride of Zinc.—ZnCl.

Preparation.—It may be prepared by dissolving zinc in hydrochloric acid, evaporating to dryness and fusing in a Florence flask. Prepared thus, it contains traces of oxyd of zinc. To remove this, a little nitric acid may be added before evaporating to dryness. The dry mass may then be dissolved in water, and prepared chalk added as long as effervescence takes place, when the mass is to be again evaporated to dryness. But, as the article is kept at all drugstores, we will seldom have occasion to prepare it.

Properties.—It is a whitish, semi-transparent mass, having the consistence of hard butter—and is hence called "butter of zinc." It deliquesces in the air, and is soluble in water, alcohol and ether. It fuses a little above 212,° and sublimes at a red heat. It combines with albumen and gelatin, forming compounds which are but slightly soluble in an excess of either agent.

Physiological Effects.—Chloride of zinc is an escharotic, by virtue of its affinity for albumen, gelatin and water. It destroys the vitality of parts to which it is applied by abstracting these compounds. On account of the same affinities, it acts as an antiseptic; and on account of others less obvious, it is also a disinfectant.

Uses.—The dentist has no use for chloride of zinc, except to destroy the sensibility of dentine. Any other purpose for which it might be used, will be better subserved by some other agent. When applied to dentine in substance, or in the solid state, it acts but little, if at all, on the earthy materials; but, by decomposing the animal matter, it destroys the vitality of the dentine, just to the extent of the chemical combinations which take place. By destroying the vitality of the surface, a shock is given to the subjacent parts, which will be followed by re-action, which is increased vitality, resulting, of course, in increased sensibility. To gain anything, therefore, by this medicine, we must either operate before this re-action begins, or wait till it has subsided. This re-action will be more prompt in some constitutions than in others—generally more rapid in the young than in the old. Just how soon it will come up and how soon subside, can not be determined by rule. Doubtless many fail to get satisfactory results, by a failure to recognize this principle, which is common to the action of all escharotics. Applying the chloride to a sensitive tooth to-day, for the purpose of operating to-morrow, is ordinarily but adding fuel to the fire. It is better to operate, in most cases, within twenty or thirty minutes, or to await the lapse of several days.

TERCHLORIDE OF GOLD, $AuCl_3$.

PREPARATION.—Dissolve gold in *aqua regia*, composed of three parts, by measure, of hydrochloric acid and one of nitric acid. Gentle heat will hasten the solution. The acids should be chemically pure. Evaporate the solution to dryness, and the result will be ruby-red, prismatic crystals of the terchloride of gold.

PROPERTIES. — Soluble in water, alcohol and ether; is highly deliquescent, has a disagreeable, styptic taste, reddens litmus, gives a purple stain to the cuticle, which is removed by a solution of cyanide of potassium. Its elements are held together by a feeble affinity, hence it is readily decomposed by many metallic and non-metallic elements, as well as by saline and organic compounds.

PHYSIOLOGICAL EFFECTS.—These are, in many respects, similar to those of corrosive sublimate, or chloride of mercury. It combines with albuminous and gelatinous substances; and its affinities for these are so strong that it takes them from living tissues, hence it is an escharotic. In contact with organic matter, a part of it is decomposed, and chlorine is liberated; hence it acts as a disinfectant.

USES.—The dentist has no call for its internal administration. To destroy the sensibility of dentine, he will find it a valuable application. And for this purpose, the ethereal solution has probably some advantages over the aqueous or the alcoholic. It is readily prepared as follows: Dissolve the crystals, as above prepared, in pure water, fill a test tube, or long phial, half full of the solution, then add an equal quantity of sulphuric ether and agitate the mixture. Let it then rest a few minutes, the ethereal solution will then rise to the surface, and may be poured off into another phial, and securely corked. It should be kept, as much as practicable, from the action of light and air.

Applied to dentine, on pledgets of cotton, it acts like chloride of zinc, but more promptly, and with less pain. Chlorine is more abundantly liberated during its action than from chloride of zinc, hence it is a better disinfectant than the latter.

THERAPEUTIC EFFECTS OF MERCURY IN ACUTE PERIOSTITIS.

By **Henry S. Chase**, D.D.S., M.D.

In an essay on Dental Therapeutics, published in the Dental Register, No. 1 for 1865, I said that mercury is our great dental polychrest. I presume that few who read that article gave the subject any further attention, as I treated the whole matter from a homœopathic stand point. There were some who personally thanked me for having written as I did.

I should like now to direct the attention of my brethren to a few cases which I have treated in the last four months, in fact *all* the cases of active periostitis which I have treated in that time.

Case 1.—Miss G., aged 13, strumous diathesis. Has thirteen gold plugs, lately inserted (August). About a month after the operation, teeth became sore to touch; could not eat on either side of the mouth with any comfort. Teeth very sensitive to thermal changes. Had been kept awake at night with pain. This case was cured in a week, and was relieved in twelve hours, under the influence of *mercurius vivus;* one thousandth of a grain being taken once an hour. That is the 3d prep. of mer. viv. was taken once an hour; dose, one grain.

Case 2.—Mr. C. aged 35. Healthy habit; of the nervo-bilious type.

Left superior bicuspid plugged with Lawrence's Amalgam, after removal of pulps, and a week of subsequent treatment.

One week after plugging, and during a wet "spell" in October had periostitis. Suffered two days before calling for treatment.

To take *mercurius vivus*, *third decimal* preparation, one grain every hour, twelve hours, or until better. The next day the patient reported himself cured; no trouble to this date, Dec. 23d.

Case 3.—Mr. D., aged 21. Healthy habit, of nervous temperament. Had rachitis when a boy. Has lateral curvature of the spine. Left inferior third molar decayed nearly to pulp. Plugged with Lawrence's Amalgam, July, 1865. About two weeks after operation, called and said he had "taken no comfort with his teeth since they were filled." Tooth is now *sore* and *loose.* To take *mercurius vivus*, third decimal preparation, every hour, twelve hours, or until better. Dose, one grain. Saw patient again in three days. He said, "I am all right now; don't know whether it was the medicine or not."

No trouble since to this date.

Case 4.—Miss. McP., aged twelve. Nervo-lymphatic habit, teeth show effects of hereditary syphilis. Front teeth notched. Spots, on many of the teeth, of a dead yellow color; particularly near the cutting edges and grinding surfaces. A very thin pellicle over these spots is hard and glassy; but immediately under, not deeper than the thickness of No. 6 gold foil, the enamel is as soft as chalk. The peculiar condition of the teeth have no immediate connection with the pathology and treatment of this case, and is only mentioned because interesting.

About twenty cavities were plugged with gold in September, 1865. The left superior second bicuspid was plugged with Lawrence's Amalgam, because it was much broken, pulp nearly exposed, and was colored with the yellow spot before mentioned. December 10th, Patient called and complained of this tooth. Would not bear heat or cold. Was sore and loose. Thinks she caught cold skating. Lanced the gums. To take *mercurius vivus*, as in the other cases already mentioned. December 14. No better. In consideration of patient's age, and condition of other teeth, resolved to extract *this* tooth. An examination of it, after removal, showed the pulp nearly exposed near line of junction between enamel and cementum; also the *horns* of the pulp extending half way to the cusps of the tooth, and very thinly covered with dentine.

Case 5.—Mr. S., age 55, a worn out farmer, naturally robust, of sanguine temperament. August 11th. Plugged right upper second molar on anterior approximal surface with Lawrence's Amalgam.

Oct. 12. Patient called, having periostitis, of recent date. Tooth sore and loose. Scarified gums. To take six powders of *mercurius vivus;* one grain once an hour.

Oct. 14. Much relieved, but is very sensitive to thermal changes. I ought to have removed the plug to day but did not. To take mercury as before.

Nov. 3d. Patient called. Tooth still sore, but not sensitive to thermal changes. Says the medicine relieves him every time, but the tooth will not *stay* cured. Concluding the pulp to have died from inflammation, caused by thermal changes. I removed plug, and finding a dead pulp, removed it and treated as usual.

Nov. 10th. Tooth still sore; syringed it well. Take mercury, as before.

Nov. 17th. Mercury relieved it; is better. Plugged with tin foil.

Dec. 26th. Have not heard from my patient since last date.

Case 6.—Master S., age 11, nervous temperament. Suspected of improper sexual habits.

Dec. 11th. Had the right under first molar plugged with Lawrence's Amalgam. Tooth very much decayed, and pulp nearly exposed. A week previous had saturated with creosote, and plugged with plaster of Paris. Before introducing the Amalgam, had cut out three-fourths, or more, of the plaster.

Dec. 15th. Patient called to have the tooth extracted. Said he could not *skate* without making his tooth ache, as he had to keep his mouth open. Scraped the amalgam plug, so as to be sure it would not receive the pressure of the antagonizing tooth.

Dec. 22d. Patient called and insisted on extraction. I refused. To take twelve powders of *mercurius vivus*, one grain every hour until better.

Dec. 27th. Patient not having called again, suppose the case relieved.

Case 7.—Miss McN., age 28, sanguine temperament. Teeth nearly destroyed by decay. Dec. 23d. Wishes something to take for tooth ache. Pain principally located in the roots of left upper bicuspids, which were sore and loose. Refused to have them extracted at present, but very anxious for relief. To take *mercurius vivus*, as in other cases mentioned, and call again if not relieved. Dec. 28th. Patient has not called yet. Suppose case relieved.

Case 8.—Miss R., age 15. brunette. Weak constitution. Only child. Has always been indulged in eating, very much to the injury of her teeth. Plugged twenty-two cavities with gold.

Right under first molar had pulp removed, Oct. 2d. Plugged with gold Oct. 6th.

Dec. 1st. Patient called, complains of pain in last named tooth. Sore and loose. To take *mercurius vivus* as in other cases reported.

Dec. 28th. Have not seen patient since last date.

I do not treat *all* cases with mercury, for I occasionally have a patient who will not take it. To-day, December 28th, I had a case in which I used creosote and tannin in the pulp cavity, tinct. of aconite as topical lotion, and bled the gums. This is the only case which has refused mercury in several months.

COLD APPLICATIONS TO ACHING TEETH.

Æsop tells us of a Satyr who kicked a traveler out of his cavern, where he had been kindly entertaining him, because he blew his breath on his fingers to warm them and on his victuals to cool them. Blowing hot and cold with the same breath being a mystery he could not fathom, he regarded it as an inconsistency he would not tolerate within his premises. But the traveler was right in his head, and true to the laws of caloric, nevertheless. The Satyr had, simply, failed to study the philosophy of heat. Many mistakes like that of the Satyr occur in our profession.

Almost every one knows that cold applications sometimes relieve the pain of toothache, and sometimes aggravate it. I once heard an aged and experienced member of our profession say that "this is the greatest mystery of our specialty." The Satyr had neglected the laws of heat; our professional father had not mastered the principles of pathology.

When there is an increase in the quantity of blood in any part or tissue of the body, with increased motion of it through the vessels of the part, the phrase, *determination of blood*, is used to express the condition. In the act of blushing, there is determination of blood to the cheeks. When there is increased quantity of blood in a part, with diminished motion, the condition is called *congestion.* When there is increased quantity of blood in a part, with increased motion in some of its vessels, and diminished or obstructed motion in the others, the condition is *inflammation.*

Pain may be experienced in the dental pulp or periosteum, from any one of the above conditions. Any one of them will produce pressure on the sensitive nerve fibrils, the degree of pressure varying directly with the degree of departure from the normal condition, and the resistance of the surrounding parts. The pulp and the dental periosteum being increased in, or between bony textures, are far more painful, under the same degree of congestion or inflammation, than are similar tissues surrounded by muscle or membrane. *They have not room to swell.*

Cold applications to living tissue cause a contraction of its vessels. If the pain, resulting from pressure on the nerve fibrils, is caused simply by determination of blood, the contraction of the vessels forces out the excess of their contents, and the pressure is relieved, and, of course, the pain ceases. The same result follows the application, when congestion is present, though less promptly. But when inflammation is the prédominant pathological condition, the motion of the blood through the vessels is obstructed—in some of them arrested, even; hence, the vessels are not able to force out their contents by contraction, and so contract on them, thus increasing, instead of diminishing, the pressure, and, therefore, aggravating instead of alleviating the pain.

With these views clearly before the mind, any one can appreciate the reasons why cold applications sometimes alleviate, and at other times aggravate the pain of toothache. And the feelings of the patient afford a guide to the treatment. While relieved by cold, the pathological state is not one of inflammation; and thus we are afforded a guide in diagnosis. Determination of blood, and congestion, may be overcome by a persevering use of cold; while, in inflammation, a treatment directly opposite is often indicated. Without trying to be technical, I hope I am understood.

W.

MISCELLANEOUS ITEMS.

By D. L. Overholser.

Wood's Alloy.—I commenced using this material for filling about two years ago. For a time I was much pleased with it, and used it somewhat extensively; but later I found quite a number of the fillings fail. Some would be loose, and still remain in the cavity, owing to its shape and position, others came out; and in some cavities, I found, to an alarming extent, that softened yellow dentine, of which Prof. J. D. White spoke in the "Dental Cosmos" for May, 1865.

In view of these facts, I abandoned the material, after using it for about fifteen months. Since then, when I have to use plastic fillings for back teeth, I use Lawrence's Amalgam.

Lower Impression Cups.—Formerly I had very considerable trouble in taking impressions of the lower jaw. The principal cause of the trouble was long impression cups, No. 3 being the smallest I then had. I got a No. 4, (White's), and don't remember having used any but that since. I have a No. 2 cup, but unless I should take it into my mind to experiment in veterinary dentistry, I don't expect ever to find any use for it. It can, however, easily be made useful by cutting off the ends.

Another Vulcanizer Explosion.—I noticed, several weeks ago, in a Chicago daily paper, that another vulcanizer had exploded in that city. This time, as in other cases of the kind, the person connected with it is said to have had a narrow escape from death. The account said nothing of the kind of vulcanizer nor of the cause of the explosion. These are points of special interest to those who are constantly using these instruments. I hope Dr. Albaugh, in whose office it is said to have occurred, or some one else familiar with the circumstances of the case, will enlighten the profession through the dental periodicals.

INFORMATION WANTED.—I have had serious trouble in attempting to supply several soft mouths with artificial upper teeth. The softness was not extreme, nor did it extend, in any considerable degree, to the alveolor ridge, which was thick. The so-called hard palate was soft, especially on each side of the ridge of the palate. The softness was not of a spongy character, but apparently muscular. For the last case of the kind I had, I made two plates (rubber), both of which apparently fitted; but although they could be worn some, and were worn, as I was assured perseveringly, for several months, yet they adhered very slightly, and dropped down from very slight causes. I would like to get the experience of others with cases of this kind, and if any one will, through the Register, tell me of a mode by which such cases can be treated successfully, I will be greatly obliged. If there should be no response to this I shall conclude that among all the readers of the Register, there is not one who succeeds any better than myself, or, if there is one, his intense selfishness renders him unworthy a membership in the dental profession of the present age.

I would here suggest that a department in the Register, of questions and answers, on various dental topics, could be made exceedingly useful and interesting, if the profession, generally, would engage in it. Shall we have it?

Morris, Ill., Jan.. 1866.

DIAGNOSIS.

By Henry S. Chase, M.D., D.D.S.

Failures in diagnosis are too common. In a full practice are we not too prone to be *hasty* in our examinations of the teeth. I was particularly impressed with the subject to-day owing to the following

CASE.

Mr. W. called for advice. He had been to his dentist twice, in about a week after having teeth plugged, to get relieved of the toothache in two teeth that had just been plugged with amalgam. The operator, an excellent dentist, had bled the gums over the affected teeth at the first visit, thinking the trouble, *periostitis*, originating from thermal changes in the pulp, caused by the amalgam plugs. The patient could take no fluids in the mouth at a different temperature from the blood without excruciating pain. The teeth had never ached until plugged.

As bleeding the gums did not relieve the patient, he called upon his dentist again, who, after examining the case, decided that he would have to lose the teeth, and recommended immediate extraction. Not liking the advice the patient left, and came to me.

He pointed out the first and second right superior molars as the ones that ached. I found an amalgam plug of moderate size on the anterior proximal surface of the first molar, and a similar one on the posterior proximal surface of the second molar.

The teeth were in as close approximation as possible. These teeth showed me no signs of periostitis; neither sore on pressure nor loose. At first I thought the pain might proceed from galvanic action between the two plugs. And doubtless it was thus caused, for they had never ached until plugged. I took the most delicate excavator I have, and passed it between the teeth, at their necks, and what was my gratification in finding an immense cavity in each tooth at this point.

Cutting the teeth apart, I found these cavities extending to the pulps. I applied arsenical paste and shall save them.

There were no external signs of decay here; no discoloration.

I wish to take no credit to myself in discovering the trouble in this case; I may have made similar mistakes also. But it was certainly a very great oversight in the practitioner that he did not make an examination *between* these teeth. Every dentist should be provided with an extremely delicate instrument like an excavator for the purpose of finding cavities of decay. It is of especial use, not only *between* teeth, but for probing the *seams* on the grinding surfaces of molars and bicuspids.

Since writing the above, a few days have passed, and I have seen the patient, who has had no pain since the end of the third hour after receiving the arsenical paste; the pulps are removed and the teeth ready for plugs.

SENSITIVE DENTINE IN A PULPLESS TOOTH.

By Henry S. Chase m.d.

A CASE.

Mrs. R., age 30. Nervous temperament, blonde, called in May last for cure of periostitis, and fistulous discharge from right superior first molar. Had been plugged two years before. The cavity being very sensitive, her dentist had used arsenic to destroy sensitiveness of dentine. Was then filled without pain. Some weeks after the operation it had ached, and finally discharged matter through the gum. Had "ulcerated" every few weeks since that time.

I removed the plug and found a superficial cavity on the anterior proximal surface very little deeper than the thickness of the enamel. Drilled to the pulp cavity, enlarged it, syringed, and forced creosote through fistula. One week after, treated with creosote again. July 8th, plugged with Hill's stopping, as there had been no discharge since last injection. Previously had a temporary plug of cotton and sandarac.

Dec. 9th. Has been a little "sore" lately, but no discharge. Removed plug, syringed, and wiped with creosote. Was much surprised to find the dentine of the pulp cavity very painful to the touch of a naked instrument; even wiping with cotton and creosote causes pain. No pain on lingual side of cavity or in the lingual root. Probed the roots to see if there were any living vessels left in them. Could not cause pain by forcing air or fluids in. The fistulous opening was on the outside of the jaw.

Dec. 13th. Tooth comfortable in the socket and no sensitiveness in pulp cavity. Plugged with tin foil.

I think this is the only case I ever observed of the kind. What caused this sensibility? I think it must have proceeded from pressure of the contents of the dental tubuli on the inflamed alveolo-dental periosteum. Or the sensation may have been caused by open dental tubes impinging on nervous filaments accompanying blood vessels in the cells of the cementum.

This case illustrates the danger of using arsenic in even *superficial* cavities, where it is *not* desired to destroy the pulp.

Iowa City, Iowa.

SEVERE AFFECTION OF AN EYE RESULTING FROM A DISEASED TOOTH.

Reported by Jos. S. Hildreth, M. D.

On the 9th of last month, I was called by Dr. Lilly, of this city, to treat Mary ———, age 12 years.

Her condition was as follows: The globe of the left eye, quite immovable by the recti muscles, was forced upwards. The upper lid covered about five-eighths of the corne; the lower was forced downward and outward. The inferior conjunctival "cul de sac" was inverted and projecting from the commissure of the lids. The corne was ulcerating at its lower periphery; but this membrane was not anæsthetized. The pupil had become dilated and fixed. The second superior temporary molar of that side was carious and loose; the gum ulcerating and the cheek swollen. Tenderness existed along the inferior border of the orbit, especially near the foramen, and extended into the canine fossa, where it was more marked, Great pain in and about the orbit; but little from the teeth. Pressure with the finger on the inner and lower margin of the orbit, produced pain in the teeth; and pressure on the affected tooth augmented the pain in the orbit. Vision with this eye so affected as not to be able to count the fingers at any distance.

This condition of the patient commenced ten days before, by pain in the tooth. On the third day the eye first began to be affected, which condition continued to increase in gravity until the date above given. The pain arising from the tooth was followed in a few days by gumboils, which soon opened; and after which the pain in these parts ceased.

Such in brief is the history of this interesting case.

It is evident there was periosteal inflammation, involving the margin and a portion of the floor of the orbit, formed by the maxillary, extending to the canine fossa and alveolar process; with, probably, necrosis of the latter.

The offending tooth was extracted. Its palatine fang was short and thin; the outer larger but also thin. A free opening was made between the cheek and canine fossa, extending three-fourths of an inch upward from the margin of the alveolus. The probe detected a slight necrosis of that process only. The bicuspid could readily be felt in its proper position.

Pressure by means of picked lint, and a bandage around the head was so applied to the contents of the orbit as to gently force the eye downward and backward. One grain of muriate of ammonia was ordered every hour, and morphine at night, sufficient to procure sleep.

The pain in the orbit was, to a great extent, relieved by the pressure, and on the fifth day, the condition of these parts had so much improved that it was discontinued. On the tenth day the muriate of ammonia was also dropped.

The patient improved daily, except a certain degree of tenderness near the infraorbital foramen, which eventually became the seat of an abscess. It was opened Jan. 5th, since which this complication has gradually disappeared.

Jan. 15th. Vision excellent, movement of globe good, except downwards, which is gradually improving.

The above case fully illustrates the necessity of giving proper attention to certain affections of the teeth, as a means of avoiding, if not in all cases as serious as this one, many and often important affections of the eye.

The number of diseases of the eye, arising from "*dental causes*," whose name is legion, is unquestionably much greater than many oculists are aware of.

Let us hope this subject may receive the earnest attention of all true laborers in dental and opthalmic surgery.

My acknowledgements are due Dr. W. W. Allport, D. D. S., for counsel in the above case.

Chicago, Jan. 15*th*, 1866.

Selections.

THE HYPOPHOSPHITES—THEIR THERAPEUTIC VALUE.

By Ira D. Brown, M. D.

It may be assumed, without any stretch of rational conclusion, that if oxidizable phosphorus exists in the brain, blood and tissues of the animal body in its normal condition, its absence or diminution must create variations from the healthy standard—in a word, *disease.* It thence irresistibly follows that the remedy consists in supplying the deficient element in a condition both assimilable and oxidizable. There is no dispute among chemists or physiologists as to the fact that the hypophosphite salts offer the most direct and philosophical means of supplying phosphorus to the system. The small amount of oxygen in combination renders them easily decomposable in the economy. In the language of Dr. Nichols, "what phosphoric acid may have failed to do in supplying the waste of phosphorus, it is almost certain that the acid containing the less amount of oxygen is capable of accomplishing." The principal theory, then, for the administration of the hypophosphites rests upon these three foundations :—

1. That phosphorus is an essential element of the animal economy.
2. That its undue waste by excretion, or otherwise, is a cause of disease.
3. That the natural remedy is posphorus in an oxidizable and assimilable form.

That the hypophosphites possess alterative and tonic properties cannot be doubted by any person who has witnessed the sometimes surprising effects following their administration. Dr. Newton says of them, in the *Chemical Gazette,* " they seem to possess the power of increasing nerve force and promoting the function of nutrition." Another effect which has often been noticed by those who are familiar with their administration is the apparently anodyne influence exerted in cases of morbid vigilance and restlessness. Although the patient may have been disturbed and wakeful, no sooner does he commence taking the hypophosphites than he sleeps soundly at night. They produce no headache, constipation, or other unpleasant symptom, and the patient does not ordinarily become accustomed to them so as to require an increase of dose. The anodyne effect is probably incidental, and follows from the tonic impression upon the digestive apparatus, as it is well known that judicious physical exercise, or anything that improves the assimilation of the food, produces sleep in the same way.

While it yet remains to be proved that any remedy is capable of curing a well-marked case of phthisis that has advanced to the second stage, there can be no reasonable doubt that the hypophosphites, beyond any other remedy that we possess, will prolong the life of the patient. Dr. Wood believes that consumption is occasionally curable. That the disease depends chiefly upon defective nutrition is almost universally admitted, and if any medicine is capable of remedying the imperfect assimilation of the food the hypophosphites will accomplish it, for therein seems to lie their peculiar power. I have seen one case where the patient was much reduced in flesh and strength, with night-sweats and a racking cough, apparently dependent upon tubercular deposit in the left lung, which resulted favorably. Under the use of the hypophosphites, the patient gained strength daily, the night sweats ceased, appetite returned, aud he got rapidly well. I saw the patient again twelve months afterwards, and he appeared to be enjoying very tolerable health, without any signs of the disease which had threatened to put a speedy end to his existence. In the first, or forming stage of phthisis the hypophosphites may be given with every hope of a favorable result.

But if Dr. Churchill did not discover a remedy for tuberculosis, he certainly did bring before the medical world a class of medicines that are of the greatest value in the numerous diseases resulting from loss of nerve power; also in many of the diseases of infancy connected with the scrofulous diathesis, and those where the osseous system is defective. In all these cases I have seen them administered with the most beneficial results, and will here mention two or three cases as illustrations.

Mrs. N., 34 years of age, married, of delicate nervous organization; had suffered much from dysmenorrhœa; never had children. Patient when she came under my notice was considerably emaciated; countenance pale; pulse weak and considerably accelerated; much troubled with cold hands and feet; appetite capricious, but generally poor; frequent pain and sickness at stomach after meals; has some cough; is dejected and gloomy in spirits: had taken elixir of bark and iron, quinine, cod-liver oil, and various other tonics, with very little benefit. Prescribed the following:—℞. Hypophosphite lime, hypophosphite soda, āā ʒij.; water, Oi. A tablespoonful to be taken thrice daily. Without other treatment the patient rapidly recovered her health and spirits; appetite became excellent: digestion good; gained several pounds in weight, and after taking the hypophosphites six weeks was to all appearance perfectly well.

Mrs. H., aged 29, had enjoyed very good health until after the birth of her second child, after which she suffered a year with indigestion, and the long train of nervous symptoms so often witnessed by practitioners that they scarcely need description. She became a prey to the most dismal fancies and gloomy forebodings; passed whole nights without sleep, often in paroxysms of mental anguish distressing to witness. Opiates seemed only to increase the sleeplessness of the patient. She was treated in turn by two medical gentlemen, who exhausted the whole catalogue of tonics and antispasmodics without giving any relief. When I saw the patient, in addition to the symptoms, above detailed, there was much tenderness perceptible upon pressing the fingers on the upper part of the cervical vertebræ. She was ordered to take ten grains of the hypophosphite of lime three times day. No other treatment was had, with the exception that the patient was directed at first to take a dose of ammoniated tincture of valerian at bedtime, which was soon discontinued. Improvement was noticed almost immediately. On the second night her sleep was undisturbed. After continuing the medicine nearly two months, she appeared perfectly well; appetite and digestion good, sleep sound and refreshing. She assured me that she could never be sufficiently grateful for recovery from a condition she said was "worse than death."

I have only time and space to give one more case, which was that of a boy three years of age, suffering from marasmus. The little patient was much emaciated, his abdomen was distended, he had a diarrhœa, which his mother said had continued with occasional intermissions for nearly two years, sometimes accompanied with bloody discharges. Under the administration of the hypophosphites, taken in milk, two grains twice a day, his recovery, apparantly permanent, took place in a few weeks. I have known a somewhat similar case recover under the use of the syrup of the pyrophosphate of iron, and will not stop now to consider whether the iron or phosphorus, or both, cured the patient.

Without protacting the discussion further, have I not said enough to warrant the conclusion that the hypophosphites are worthy a more prominent place than the appendix to the United States Dispensatory? In the class of diseases to which they seem so well adapted, I believe they will disappoint the practitioner in fewer instances than more pretentious remedies that come to us labelled *officinal.*

It may be proper to add, by way of caution to those who may desire to make a trial of the hypophoshites, that some of these salts in the market I have found nearly worthless, they doubtless being improperly prepared. It is of the utmost importance that they should be pure, containing the proper proportion of hypophosphoric acid, and it will be well to see that they come from the laboratory of some reliable chemist.

Albany, N. Y. December, 1865.

CHLOROFORM—ITS ACTION AND ADMINISTRATION.

By ARTHUR EARNEST SANSOM, M. B. Lond. Philadelphia: Lindsay & Blakiston. 1866. Pp. xii., 279.

Of the twenty chapters of this book, seven discuss the dangers of chloroform, the nature and mode of death from its use, and the methods of resuscitation therefrom. This ought to be its all-sufficient commentary.

One of the warmest and most polemical advocates of chloroform, Mr. Charles Kidd, in September, 1865, conceded 250 deaths to have been caused by chloroform.* Mr. San-

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*The Philadelphia *Medical and Surgical Reporter*, January 13th, 1866, quotes Mr. Kidd, as saying, "that during this year (1865) he had extractsom, remarking that it has been impossible to obtain the records of all the fatal cases, admits but 109, that being the number, the facts of which have been collected by the recent Chloroform Committee of the Royal Medico-Chirurgical Society. In these death occurred

Before the full effect of chloroform was obtained, in - -	50
During the effect, in - - - - - - - - - -	52
At a period not stated, in - - - - - - - -	7
	109

In 72 instances the victims were males and in 37 females. In 62 cases, the chloroform was administered for "minor causes."

In explanation of these striking statements, the author says: "Nature provides in disease a gradual depression of the functions; an accommodation by degrees to a less perfect life. An animal which has been gradually accustomed to breathe an impure atmosphere will continue alive, though another healthy one plunged therein will die immediately." We fail to perceive the force of this theory, but Mr. Sansom argues that hence "the feeble bear chloroform better than the strong; children are the best subjects of all; women are better than men; men are most prone to death when they are in the prime of life; and when they are debilitated by pre-existing disease their chance is better than when they submit to chloroform for trivial causes in more perfect health and strength; and, further, the chance of ultimate recovery is greater when an operation is done under chloroform for a diseased condition than when it is undertaken for an injury."

The indiscriminate administration of chloroform is asserted to be dangerous; the intemperate, those having fatty hearts, the nervous and hysterical, and those suffering under shock of the nervous system, are pronounced, by Mr. Sansom, to be especially prone to suffer the accidents of chloroform administration.

"Experiments upon the lower animals, equally with observations on man, prove that there is but a narrow limit between that strength in which the vapor may be safely inhaled and that which is likely to produce alarming symp-

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ed notes from various newspapers and medical journals of over a dozen deaths by chloroform, 'deaths lying *perdu*, as it were, or hidden, but all bearing out the views of 250 others that he had in vain collected and offered the British medical and other weeklies.'"

toms, if not death." Consequently, nothing but the most approved inhaler should ever be used, and an atmosphere, containing four and a half per cent. of chloroform, is all that can, with safety, be employed; this ratio should be sustained by mechanical means and by no guess-work contrivances." In thirty-six deaths, the average amount of chloroform used was 1.7 drachms."

We have selected these paragraphs for citation to show that the book furnishes us with no new ideas of chloroform, or affords any re-assurance in its use. On the contrary, it adds to our pre-existing fears; it appals us by the dangers it describes; it intimidates by the extreme caution demanded in its exhibtion, by the failure of the greatest care to avert a fatal result.

The compromise adopted by the Chloroform Committee, above alluded to, accepted and approved by Mr. Sansom, of a mixture of sulphuric ether and chloroform, is, we conceive, if not a triumph on the part of ether, at least a tacit condemnation of chloroform. That Committee remark that "it is quite possible that at some future time an anæsthetic may be discovered which will fulfil the required condition yet more perfectly than these mixtures." That discovery was made on the 13th of September, 1846 (at 19 Tennant's Row, Boston, Mr. Sansom has it), and has been in daily use since November 7th, of the same year, when the first capital operation, in which pain was totally annulled, was performed at the Massachusetts General Hospital, one year, less three days, before the anæsthetic properties of chloroform were discovered. From that day to this not a single unavoidable accident has resulted in its use, nor has it ever failed, in hands familiar with its administration, to produce complete, satisfactory and perfectly safe anæsthesia. The converse of all which relates to the danger of chloroform is true of ether. Where chloroform threatens, sulphuric ether affords entire immunity from danger, and where chloroform is safe, sulphuric ether is safer; and if, as stated by Mr. Sansom, six minutes is the average time required to accomplish anæsthesia by chloroform, one of the chief arguments hitherto urged in its favor, as compared with sulphuric ether, is destroyed, since that is a liberal allowance of time to easily effect a thorough etherization.

In this connection, and as bearing on the question of the practical use of ether, the recently published statistics, contained in "Circular No, 6, War Department, Surgeon General's office, Nov. 1, 1865, (p. 87), are interesting. It appears that the reports of 23,260 surgical operations have been consulted in regard to the employment of anæsthetics. "Chloroform was used in 60 per cent. of these, ether in 30 per cent., and in 10 per cent., a mixture of the two was administered (in 40 per cent., a more bulky anæsthetic than chloroform was adopted). At the general hospitals, the greater safety of ether as an anæsthetic was commonly conceded. It was often employed, and no fatal accident from its use has been reported. In the field operations chloroform was almost exclusively used. In seven instances fatal results have been ascribed with apparent fairness to its use. Detailed reports of these unfortunate cases are on file."

We have only to say, in conclusion, that Mr. Sansom appears to have written a complete and candid treatise on the subject of chloroform. We regret to think that a firm, usually so judicious, should have deemed it for their interest to reprint the book, or that there are, in the United States, enough persons so blind to their own interests and the safety of their patients, as to purchase even a small edition. Would the public, by purchasing, endorse the propriety of publishing an essay on the "domestic uses of gunpowder," or on "camphene and its admirable adaptation for kindling fires?" The book is well printed and on good paper, but it should have been bound in black, with a "death's head" stamped on the covers, as apothecaries label their laudanum when they dispense it in phials.—*Boston Med. and Surg. Jour.*

INDIA RUBBER CONES FOR POLISHING VULCANIZED RUBBER.

Before I began to use vulcanized rubber as a base for artificial teeth I had seen several of my professional friends using pine and cork cones, with sand paper attached to them by a ring of metal forced over the sand paper till it came near the base of the cone, which was attached to a small lathe, for the purpose of smoothing and polishing vulcanized rubber. That plan of procedure was always somewhat unsatisfactory to me, and I had received from a friend a piece of cast-away India rubber, which had been used on a railroad car, and laid it away for some future use, but at the time I did not know what I would want it for; but, as the pine wood cones did not last, nor work well with me, nor the cork cones, which were what are called jug corks by dealers in corks, I concluded to try how a gum elastic cone would work, and selected as sound a portion of the old rubber as I could get, cut out a piece as smooth as I could with my pocket knife; (but it was not very easy to work smooth, and dulled the edge of the knife very badly.) The largest one I made was about two and a quarter inches long, one and a quarter inches in diameter at the base, tapering to about half an inch in diameter at the point, which was rather to large in case a man had but one, but I find it advantageous to have two; one about one-third the size above mentioned. I made three sizes,but would recommend but two for that purpose. Having used these three cones a great deal, I find they answer the purpose much better than anything else I have tried. They wear out very slowly, and their elasticity permits pulverized pumice stone, and tripoli, moistened or wet with water, to adhere sufficiently to answer the purpose very well. I found some difficulty in getting a hole in the centre to insert the tapering screw that belongs to and accompanies the *hand and foot lathe*, but I succeeded by the use of a tine of a rat-tail file, which I heated a little, and by that means bored and burned it until I could screw it on and make it fast to the lathe.

If other dentists have not discovered anything better adapted to the purpose, I would respectfully suggest to the manufacturers of gum elastic toys and wares to prepare a mould with a conical central piece in it, so as to form a small hole in the cone, extending about two-thirds of the length, and manufacture a sufficient number of them to supply all the dentists who use vulcanized rubber as a base for artificial teeth; but if there are any other means better adapted to the purpose, I would be pleased to know of it, as I have been seeking the best means of performing the duties of a dentist for many years, and have rejoiced at many of the improvements which have been made, and gladly lend my feeble aid in the advancement of our profession.—*Dental Times.*

RE-AMPUTATION FOR INTENSE NEURALGIA IN A STUMP. ANÆSTHESIA INDUCED BY NITROUS-OXIDE GAS.

John McCollom, aged 24, of strumous diathesis, was admitted to the hospital Oct. 12, 1865. He had been serving in the Army of the Potomac. On the 28th of September, 1864, his left foot was carried away by a piece of shell, amputation was performed a few hours afterward, in the inferior third of the leg by antero-posterior flaps. Union progressed favorably for three weeks, although, even during that time, there was an unusual amount of tenderness, in the stump, but more especially in the course of the anterior tibial and peroneal nerves. Over the position of the end of the last nerve a hard nodule can be readily felt through the skin, intensely sensitive to pressure, and evidently involved in the cicatrix. Several small nodules can be felt in other parts of the stump. The skin is adherent to the end of the bones and the whole stump has the feeling of hardness, and immediately over the peroneal nerve at its termination, the skin is discolored and has frequently been the seat of ulcerations. The tissues above the stump are healthy, and his general health is good. The nodules are bulbous enlargements of the nerves which are disorganized, and the hardness is due to a deposit of fibrous matter. The only operation that will give him relief consists in a re-amputation higher up, going beyond the diseased nerves. Excisions of these tumors would not be of benefit here, as probably all the nerves are involved.

I use in this case as an anæsthetic, the protoxide of nitrogen, which consists of one equivalent of oxygen and one of nitrogen. The gas is carried in various sized gutta-percha bags, having a flexible tube and a hard rubber mouth-piece, with a stop-cock attached, which is placed against the teeth, the mouth being held open by a small wedge. The lips are drawn over the mouth-piece and, the nose being closed, the patient is directed to take a full breath. From twenty to thirty seconds is quite sufficient to induce total anæsthesia.

The patient was put under the influence of this agent in about fifteen seconds, and the amputation performed by making lateral skin flaps and a circular of the muscles, without the slighest pain or unpleasant effect. The operation lasted two minutes.

Dissection of the Stump. Oct. 25, 1865. Dr. PEPPER reports that all the tissues in the lower part of the stump were involved in a dense cartilaginous cicatrix. There was marked enlargement of all the nerves, especially of the posterior tibial, which was fully as large as an ordinary sciatic, hard and coarse, and terminating by a fibrous cord with a hard nodule developed about an inch above its insertion into the cicatrix. Both the anterior tibial and peroneal nerves terminated in flattened nodules, directly involved in dense fibrous tissues. The vessels were patulous to within a short distance of the end of the stump.

Microscopic Appearances. In the anterior tibial and peroneal nerves, neurilemma was very much thickened. The nerve-tubes tortuous with deficiency of the white matter. Numerous small oil globules along the fibres. In the posterior tibial, below the point of second amputation, there was no trace of true nervous structure, the coarse fibres of which the nerves consisted being entirely composed of many bands of fibrous tissues.

ANÆSTHESIA FROM THE INTERNAL USE OF CHLOROFORM.

Noticing an article on Chloroform in the *Reporter* of October 28th, Dr. J. N FREEMAN, of Morris Illinois, late Surgeon 106th N. Y. S. I., writes as follows ;

"On the Second of July last, at the Delevan House in Albany, my Brother, J. A. FREEMAN, M. D., who was with me, was attacked with cholera morbus, with crampings so severe as made him cry out with pain. I gave him various remedies without avail, till at last the urgency of the symptoms induced me to give him twenty-five drops of chloroform internally, and repeat the dose in about five minutes, when the anæsthetic effect was speedily manifested, rendering him perfectly insensible. Dr. J. V. P. QUACKENBUSH was present before he recovered from the stupor produced by the chloroform, and as the crampings partially returned, advised another dose of chloroform internally, which again produced its anæsthetic effect, after which there was but little return of the crampings, and we were able to resume our journey the next day."

On the Germinal Matter of the Blood, with Remarks upon the Formation of Fibrin.—By Lionel S. Beale, M. B.—Applying his general views upon "germinal matter" and "formed material" to the blood, Dr. Beale believes that the white blood-corpuscle consists of the former, the red corpuscle of the latter, and that in red corpuscles possessing nuclei, the nucleus represents the germinal matter. In regard to a cell-wall, Dr. Beale urges some striking observations disproving its existence. Taking, for illustration, the red blood-corpuscle of the frog, the outer part which cannot be colored by carmine, is "formed material" which was once in the state of "germinal matter," and was capable of producing matter like itself, and of being resolved into colored formed material. But this formed material once produced cannot form matter like itself, although it can be changed, dissolved, and converted into other substances. It is the seat of physical and chemical actions alone. Vital changes are restricted to the germinal matter. In the nutrition of the blood-corpuscle, pabulum passes through the outer colored portion into the germinal matter, where it acquires the same vital powers which the germinal matter already existing possesses. When blood becomes stationary the white corpuscles and the nuclei of the red increase in size and subdivide. In such circumstances, "granular corpuscles" may be developed from the white or from young red corpuscles. In adult, mammal's blood are certain corpuscles, and granular in appearance, colorless, and much smaller than the ordinary red corpuscles; so small, in fact, that they can only be seen by powers magnifying upwards of 1000 diameters. These corpuscles, the author believes, to consist of germinal matter which has just commenced to undergo conversion into red formed material. The red corpuscles vary in size much more than is commonly supposed, and they differ very much in transparency and refractive power, some being only just visible in consequence of the extreme transparency of the material of which they are composed.

In the second paper quoted above, Dr. Beale advances some very remarkable views. He believes in the existence of very minute particles of germinal matter (less than the 1-4000th of an inch in diameter) in the blood. These masses of germinal matter multiply by a protrusion taking place from the surface, and final separation into two separate masses. Nuclei may arise in these masses. In inflammation of the vessels of the frog's foot, the increase of white corpuscles is not alone dependent on arrest of the circulation, but the corpuscles actually multiply in the clot. In regard to the development of cells in exudations, the author advances the view that "exudations," although clear fluids, really contain a multitude of extremely minute particles of living matter, which are intimately related to the white blood-corpuscles and that these grow and become one source of small "granular cells" or corpuscles. Further, living or germinal matter may retain its vitality, so that particles may be formed in one organism and be carried to another where they may grow. It seems to the author probable "that many contagious diseases are due not to the propagation and transference of vegetable organisms, but to small particles of living animal matter which have descended from the germinal matter of one organism, and have been transferred to another." Finally, in reference to the formation of fibrin, Dr. Beale holds that it is "the result of vital process," that it is "formed material," and "that living germinal matter becomes fibrin."—*Edinburgh Med. Jour. and Jour. of Micros. Science*, vol. iv., 1864.

INJECTION OF AIR INTO ABCESSES AND FISTULÆ.—Prof. Rozer states that there is no better means of treating an abscess, the contents of which has become foul and stinking, than by the frequent injection of air by means of an elastic catheter and syringe. The patient is to be instructed to repeat this injection sufficiently often to prevent the accumulation of pus: and this operation not only adds much to comfort by removing the nauseous smells, but also seems to greatly expedite the contraction and closure of the cavity of the abscess. It is of especial benefit in the treatment of the fistulous openings remaining after emphysema, and attended with such a digusting smell. This is speedily removed by aid of the injections, and the healing of the fistula promoted. This is often retarded for months, owing to the valvular condition of the track of the fistula preventing the free issue of the pus, which is secured by the daily passage of the catheter for the purpose of injecting the air.—*Archiv. der Heilkunde*, in *Medical Times and Gazette*.

NOTE TAKING.

Sir Benjamin Brodie says it was from his friend Jeffreys that he first learned the importance of keeping written notes of cases. All his life he kept notes. At the bedside of patients he jotted down a few memoranda, which he afterward expanded in the evening; and his notes of cases thus kept for half a century, now form many quarto volumes. He did not find that the habit of committing his observations to writing weakened his memory, but rather that it strengthened it; and in the most strenuous terms he insists that no one can become thoroughly well acquainted with his profession, either as a physician or as a surgeon, who has not studied it in that manner. He has always tried to impress this fact on his pupils, and has often lamented that only a small portion of them would follow his advice.—*Brit. Med. Journal.*

Dr. Richardson, an English chemist, says that iodine placed in a small box, with a perforated lid, destroys organic poison in rooms. During the continuance of an epedemic small-pox in London, he saw the method used with benefit.—*Amer. Druggists' Circular and Chemical Gazette.*

* * *

THE RATTLESNAKE POISON.

To ascertain the power and amount of this poison, Dr. Dearing performed the following experiment:

The snake was a very large and vicious one, and very active at the time. He took eight half-grown chickens, and allowed the snake to strike at each, under the wing, as fast as they could be presented to him. The first died immediately; the second, after a few minutes; the third, after ten minutes; the fourth, after more than an hour; the fifth, after twelve hours; the sixth was sick and drooping for several days, but recovered; the seventh was only slightly affected, and the eighth not at all.

With my second remaining specimen, I was desirous of performing several experiments as to the action of this poison on the blood. The following is one:—The snake was quite active, and as any one approached the cage, began to rattle violently; but twenty-five or thirty drops of chloroform being allowed to fall on his head, one slowly after the other, the sound of his rattle gradually died away, and in a few minutes he was wholly under the effects of this agent. He was then adroitly seized behind the jaws with the thumb and forefinger, and dragged from the cage and allowed to partially resuscitate; in this state a second person held his tail to prevent him coiling around the arm of the first, while a third opened his mouth and with a pair of forceps pressed the fang upward, causing a flow of the poison, which was received on the end of a scalpel. The snake was then returned into the cage. Blood was then extracted from a finger for microscopical examination. The smallest quantity of the poison being presented to the blood between the glasses, a change was immediately perceived—the corpuscles ceased to run and pile together, and remained stagnant, without any special alteration of structure; the whole appearance was as though the vitality of the blood had been suddenly destroyed, exactly as in death from lightning. This agrees also with another experiment, performed on a fowl, where the whole mass of the blood appeared quite liquid, and having little coagulable power. The physiological action of this poison on animals is probably that of a most powerful sedative, acting through the blood on the nervous centres. This is shown by the remarkable fact that its full and complete antidotes are the most active stimulants. Of these, alcohol in some shape is the first. (Dr. W. J. BURNETT, before the Boston Natural History Society—*Things not Generally known* and *Dental Cosmos*.)

* * *

RE-PRODUCTION OF BONE.—M. OLLIER (Paris), who has been for some time experimenting with the periosteum in forming new bone after the old had been removed, has recently removed the upper half of the humerus from a child, six years old, for disease of the shoulder-joint, carefully detaching the periosteum all round, and dividing none of the muscular attachments. The child now, seven months after the operation, is in good health, and the arm is almost perfectly restored.—*Med. and Sur. Rep.*

NITROUS OXIDE GAS IN SURGICAL OPERATIONS.

EDITOR MEDICAL AND SURGICAL REPORTER:—In your number for January 6th, 1866, is a letter from the distinguished surgeon J. M. CARNOCHAN, of New York, respecting the use of nitrous oxyde gas in operations. In this he states:

"This is the first capital operation performed under the influence of the gas since the great discovery of WELLS, of Hartford, 22 years ago," etc.

By turning to pages 52 to 68 of the work called Anæsthesia, published in 1859, by HON. TRUMAN SMITH, in defense of WELLS before Congress, you will find a full account of an amputation performed by me, in 1848, 18 years ago—with a success fully equal to that attained since, either by gas or chloroform. *This* was the first amputation. The same reasons are there given for preferring the gas to other anæsthetics, which are urged by Dr. CARNOCHAN. Probably he was not aware of this operation when he made the above statement.

In that case WELLS himself gave the gas.

Very respectfully yours,
P. W. EILSWORTH.

Hartford, Conn., Jan. 12, 1866.

DISSECTING ABSCESS OF THE LEG. OPERATION; NITROUS-OXIDE GAS.—James ———, colored, æt. 15. Received a blow upon the left leg five weeks ago. An abscess has formed, which is about the middle of the limb on the outer side, immediately under the skin. The pus has worked its way in various directions, and has reached the surface by one small orifice at the inner side of the tibia. All this requires is a free incision, laying open the undermined portion. A flaxseed poultice and then some stimulating wash may be applied. Profound anæsthesia was induced by the nitrous-oxide, lasting one minute, and the abscess was freely opened. No unpleasant symptoms followed the use of the gas. Consciousness returned very rapidly. No sickness of the stomach.

A Monograph on Glycerin and its Uses. By Henry Hartshorne, M. D., Member of the American Philosophical Society, &c. Philadelphia: J. P. Lippincott & Co. 1865.

In this neat little book of sixty-eight pages the compiler has given us nearly everything yet ascertained relative to the properties, chemical relations, medical and pharmaceutical uses, and physiological action of one of the most remarkable and important substances in our materia medica. Possessed of wonderful powers as a solvent and preservative, and at the same time almost as inert as water, its chief value in our art lies in its employment as a vehicle for the administration and application of drugs in a more unchangeable and concentrated form than those hitherto used. Internally, it has been somewhat employed as a medicine in cough mixtures, phthisis and other diseases, but its therapeutic or nutritive powers must be very slight. We think the author has also dwelt too much upon its importance in cutaneous diseases, and has attributed effects to the vehicle which belong entirely to the substances combined with it. As a substitute for fat in ointments, and for water or alcohol in washes, there can be no doubt, of its value in some cases, but by itself it has no curative action upon the skin. We can recommend this volume to our readers as an important chapter hitherto wanting in their works on materia medica.

NITROUS-OXIDE GAS IN CAPITAL OPERATIONS.

I observe in your last number, January 27th, a communication from Dr. Ellsworth, of Hartford, in which he states that I was in error in supposing that I was the first to perform a capital surgical operation under the influence of nitrous-oxide gas, as he had amputated a limb eighteen years ago, Dr. Wells himself administering the gas. I was aware, when I wrote my letter on this subject, that one or more surgical operations had been performed in Hartford, about the time of Wells' discovery. I therefore, if you will observe, distinctly stated that mine are the first capital operations performed under the influence of the gas, *since* the discovery of Wells, meaning since that epoch. I did not lay claim to any priority in the use of the gas, nor to any particular merit, except that of reviving its use for surgical purposes, after it had been abandoned in favor of chloroform and ether for nearly eighteen years, and proving and corroborating the fact that it is preferable to either, and perfectly suitable for all surgical operations of short duration.

I am pleased to find that so distinguished a surgeon as Dr. Ellsworth, should have been one of the first to practically demonstrate the anæsthetic qualities of nitrous-oxide gas in surgery proper.

Since my letter in December, I have performed four more capital operations upon adults, viz., one amputation of the thigh, one of the leg, the removal of a tumor from the side, and the extraction of a cataract, making in all, since last July, seven successful capital operations under the influence of anæsthesia produced by the nitrous-oxide gas. I have also, during this time, used chloroform and ether in my operations, and my opinion in regard to the superiority of the nitrous-oxide as an anæsthetic, is still unchanged. I believe, however, that there is a great room for improvement in the mode of administration of the gas; one principal fault at present being the repeated inhalation of the same material. An instrument which will act by a valvular arrangement, as in Reed's stomach-pump, would obviate this difficulty, and I have no doubt but that some skillful mechanician will produce one that will meet the necessary requirements.

The necessity which exists for some anæsthetic agent which will enable the patient to place himself in the hands of the operator without fear of the unpleasant, dangerous, and sometimes fatal effects of chloroform and sulphuric ether, renders the consideration of this subject a matter of much importance to the profession and to the world at large, and the elucidation and record of new facts connected with it may be made the basis of future improvements.

With the exception of the undoubted claim which WELLS has to the discovery of anæsthesia for surgical purposes, I regard the historical part of the subject as of comparatively small import. As the matter now stands, however, by reference to Senator TRUMAN SMITH'S Congressional report, referred to by Dr. ELLSWORTH, I find that on August 17th, 1847, Dr. E. E MERCY, then of Hartford, now of this city, removed a schirrous testicle; that on January 1st, 1848, Dr. P. W. ELLSWORTH, of Hartford, performed an amputation of the thigh on a boy, and that, three days after, Dr. S. B.

Beresford, of the same place, removed an adipose tumor, six ounces in weight, from the shoulder of an adult.

Since these operations, performed at the time of Wells' discovery, nitrous-oxide gas, as an anæsthetic, has been absolutely abandoned in capital surgery, until my operation, the extirpation of a cancerous mammary tumor, with enlarged cancerous glands in the axilla, on the 22d of July, 1865, an interval of about eighteen years. The period of time (sixteen minutes) that the patient was kept under the influence of the gas, during that operation, is, as far as I know, the longest on record. I must state, however, that during this time, the bag containing the gas was removed several times from the mouth of the patient, in order that the lungs might be injected with atmospheric air.

The subject remains open for future experiment to develop the further capabilities of the nitrous oxide gas as an anæsthetic agent.

J. M. Carnochan, M. D.

Medical and Surgical Reporter.

NITROUS OXIDE.

Editor Medical and Surgical Reporter:—Your reviewer, in his notice of "Sansom on Chloroform," when speaking of *nitrous oxide* as an anæsthetic, says: "We ask, by the way, and would like to see answered, the query, what becomes, in the now increasing and successful use of nitrous oxide in surgery, of the wild excitement familiar to every student of chemistry."

The gas may be given so as to produce "wild excitement;" or it may be administered so as to produce perfect anæsthesia in about one minute. This difference in the effect of the gas, is found in the *quantity* given, and in the *manner* of administering it. Your chemist, who gives it to his student for amusement, uses a small bag of the capacity of two or three gallons, with a mouth-piece of small calibre and allows the air to mingle with the gas in the lungs.

Now, if instead of this miniature apparatus you use a six or eight gallon bag with a mouth-piece having a calibre of at least five-eighths of an inch, and having closed the nostrils of the patient, introduce the mouth-piece after an expiration, taking care that the lips are perfectly closed around it, so that no air shall enter, you will have no "wild excitement," but perfect anæsthesia.

CHARLES H. SHEARS, M. D.

Sharon, Ct., Jan. 22, 1866.

DR. BURTON, of Birmingham, Eng., has reported, in the last number of the *Dublin Quarterly Journal of Medical Science*, Nov., 1865, a case in which an artifical tooth and plate were swallowed during an attack of puerperal convulsions. It is stated that the patient recovered from the convulsions, but died four days afterward of gastritis.

Correspondence.

ABOUT THE EDITOR OF THE "COSMOS," ETC.

ED. REGISTER:—On the 23d of October last, I sent an article to the "Dental Cosmos." So long was I in hearing of it, that I took for granted that it had gone *under* the editor's table; and perhaps it did, and was raked out by a higher power. Such has been the experience of much finer articles than it, as, for example, the beautiful song "Rain on the Roof." The January number, however, produced the article; and then the delay was explained: It was not regarded as sufficiently *truthful* to appear alone; and the antidote, in the shape of half a page of editorial damnation, was not ready to accompany it. This article was entitled "PHYSIOLOGY AMONG DENTISTS;" and its sole object was to stir up our profession to a more earnest and more extended cultivation of physiological science. To accomplish this, it was thought necessary to demonstrate the fact that it had been, to some extent, neglected. The Chicago meeting of the AMERICAN DENTAL ASSOCIATION was referred to as follows: "A prominent and talented member told us of queen bees being reared from the larvæ of drones, simply by a change of diet. * * * A physiologist can appreciate the fact, that an improved diet may develop genital organs that would lie dormant under a less generous regimen, but that the *sex* can be changed by a variation of food, is new to him."

To this the editor of the "Cosmos" responds as follows: "Had such an assertion been made, the proper place to have corrected it would have been on the spot; but no such position was assumed by any one at the meeting."

Here is contradiction as direct and unequivocal as the familiar "Katy-did" and "Katy-didn't." I wrote to the editor that the question of veracity between us was rather too sharp to rest on, and requested a retraction or explanation. (A copy of my letter is not before me). He responds: "I do not regard the question between us as one of '*veracity*,' but of *apprehension*," which would be quite satisfactory if the history of the affair, and the general character of the editorial, would permit such statement to be readily believed. Look at the facts: The profession was once somewhat acquainted with me as a writer. That acquaintance had to be broken off. Too prolonged over-taxation of the brain rendered relaxation necessary. Seven years of hard labor, daily, and mostly long into the night, with but three days of mental relaxation during the time, proved too much; and rest was required. Passing through, (no, only partly through), a severely afflictive ordeal, the brain was restored to its normal condition; and, with gratitude and thankfulness, I again took up the pen. I wrote an article for the "Cosmos"—the first I ever wrote for it. And I believe there were at least ten, and possibly twenty, *readers* of the "Cosmos," who were glad to know that I was again able to write; and I presume, as well as I can judge from manifestations, that the "Cosmos" has not more than *one writer*, who is sorry that I can wield the pen once more. And, now, readers of the "Register," especially those of you who have read the "Cosmos," too, did you, in all the history of professional journalism, ever know any writer, old or young, experienced or inexperienced, get such an editorial welcome? The editor had the article more that two months before its publication. If he could not insert it without the statement, virtually made, that one of its assertions is false, and the rest contrary to fact, why did he not reject it—throw it under the table, burn or return it? It was received by him in October. The December number appears. No notice that it is not all right." "Proof" is sent for correction,—no intimatiom that any statement needs modification. But, after two months of editorio-gestation, he is safely accouched of a "full-grown offspring," which, true to the instincts of its maternity, thus *welcomes* an old writer to the parental mansion, on his first visit: "Had such an assertion been made, the proper place to have corrected it would have been on the spot; but no such position was assumed by any one at the meeting." And "The sweeping objections to the general character of the discussion on Physiology in the Association are equally open to exceptions; but it is not necessary to dwell upon them, as the facts to the contrary * * * are so palpable and easy of recogniton."

Between these two charges, he gives a little statement about the raising of queen bees, which is as correct and clear as would be expected from a boy or girl in the intermediate department of our public schools, and not far behind a lecture I once heard on the eye, from the same renowned teacher, during a visit to our north-western metropolis. In his private letter, he says he is very familiar with the bee subject; and we found him so with the other subject; for he was always able to *read* the order of colors, as presented by the prismatic decomposition of light, but in no instance, during that hour, able to *state* it without close adherence to his notes.

A pious man, but a bad reader, was sorely puzzled, in his family devotions, with the names, "Shadrach, Meshach, and Abednego." When they were cast into the furnace, he expressed a hope that he was done with them. But reading farther, he manifested his surprise and disappointment in a shrill whistle, adding, "Here come the hard named boys out to torment me again!" The *cordiality* with which the editor of the "Cosmos" welcomes me, from the *furnace* of affliction, back to the list of dental writers, is very similar. I infer, either that he regrets my partial recovery, or that somebody has hit him with a sour apple.

But if he regards the question between us as only one of "apprehension," could he not have admitted the possibility of himself being mistaken? Yet he does not do it, but charges me with false positions throughout my article. Does he not know that he did not hear all that was said at the Chicago meeting? Does he not know that a man may sit beside a clock, more than an hour, and not hear it strike? A man who had to speak oftener than any other three men at a meeting, who had to give school-boy lectures, who had to pass a rehash of old editorials for an original paper, who felt impelled to make himself so miscellaneously officious and useful, that the common inquiry was "When is that man going to hold another meeting of the Association?" a man so overwhelmed might fail to hear a word or two. He might even fail to notice that a speaker said "drone," instead of *worker*, when all else was correct in the speech. That even the infallible editor of the "Cosmos" might fail to hear every thing, may be illustrated thus: Another member and myself had a dispute as to whether a young crab, or crawfish, would continue to grow, while a lost arm was being replaced, by the growth of a new one. The production of a new member, to replace the lost one, was assumed as a thing known to every body. We both talked about it; and, near the close of the special debate on that subject, the editor of the "Cosmos" kindly furnished me a card, by way of assistance, on which he had written in substance, "Don't forget the *important* fact that the *crustacea* have the power of reproducing lost members." And he heard all the debate? He was sitting close by.

As to a failure to correct the mistake "on the spot," I have simply to say that I had already spoken *twice* on the subject; (as often as allowed by rule, I believe) and I thought there was "a more excellent way." I privately pointed out, to the speaker, his inadvertence, that he might correct it himself; but I suppose he forgot to do it. He admitted the mistake, and thanked me for correcting it as I did. That the editor failed to hear it, is no proof that it was not uttered. Two witnesses swore that they saw Tim strike Mike, and showed the stick with which he struck him. A dozen testified that they didn't see Tim strike Mike, and each showed a stick with which he didn't strike him. But, by some mishap, Tim was convicted.

This may look like giving too much attention to a *small affair*. But there was once another "*Little Mc.*"—a very little man, smaller, perhaps, than the editor of the "Cosmos;" and, though naturally calling for no special attention, yet by virtue of an artificial position, accidently obtained, he was able, for a long time, to paralyze the energies of a great nation. Our *little* Mc., by virtue of his *artificial*, or accidental position, at the head of a leading journal, may do much mischief to our profession, and hence is entitled to attention that would not otherwise be warranted.

The readers of the "Register" *are my friends*. If I am set right with them, I have gained my main point. The readers of the "Cosmos" ought to feel grateful to me. If I had not written that article, their January number would have had no "EDITORIAL."

Yours Truly,

GEO. WATT.

FOREIGN CORRESPONDENCE.

THE following extracts from a letter to the editor, by F. Slayton, D. D. S., of Florence, Italy, may be of some interest to our readers:

DEAR DR. TAFT:—While reading over some old "Registers," and your editorial comments, I made up my mind to have that journal. Father has, for a long time, taken the "Cosmos." I want the Register. Please send it. I have sent you six dollars. * * * Another object in writing was to tell you by what a crowd of savages we are surrounded—all with hammer and saw, and a "Surgeon Dentist" over the door, trying to make artificial dentures. So often, and in so many by places, had the sign, "*Chirurgo Dentista*," met my eye, that I determined, one day, to make a tour of inspection, and send you the result. Happening to be near a certain "*Donati Dentista*," I went up stairs, and asked for the Doctor. It must be that "waiting" is an essential attribute of a dental operation, as I found a little hole, vulgarly called an "ante-waiting saloon," filled with mostly the poorer class of Italians, all waiting to have a tooth "raised." I found an Englishman that wanted a tooth "*stuffed*." Presenting my card, I was, in a second, jerked into another sitting room, and there I met the Doctor, telling him I was an American "fledgeling." He very kindly invited me to take a look at his work-bench, and, also, "with a look of pride," asked me to be seated in the saloon; the said saloon having the most active spiders in the corners, spinning the longest webs that has ever been my fortune to witness. The web extended as follows: commenced at the street door, ran up stairs, passed through the different saloons, into the very sanctum, the operating room, into the patient's pocket, and even had strength enough to draw blood pretty freely from the patient's pocket-book therein to the amount of four gold dollars, for a "swab" of soft silver and plenty of mercury, vulgarly called a "plug." I began to think the Englishman was about right, in coming to get "stuffed." He only ought to have added "gulled," to make a correct *diagnosis.* Of course the said Donati was a dentist of long standing and of unusual experience, and had used the vulcanite *twenty-two years*; and after having used gold and silver plates for twelve or fifteen years, had renounced all for the carved ivory plate and teeth. His work-shop had every thing but a plane; but I suppose he smoothed down the papillæ with his files. The wood-box served for a dental chair. * * * The Doctor frankly confessed his want of tools, and wanted my case. I could almost forgive his want of necessary tools, so frank was his admission; but the smell of the vulcanite experience was a little too musty. His saloons were very dirty; but my reason for an abrupt departure was an invitation to "step down cellar and see his three-horse power vulcanizer at work." If there isn't a blow-up from the said three-horse power, some fine morning, I am much mistaken.

I next called on an out and out "maker of dental fixtures, carved in the latest style, from the sea-horse tusk"—so ran the sign. I went up stairs, and found the venerable "Dentista" busy at work, fitting in one of the most stylish sea-horse fixtures I ever saw. So stylish and full of life was it still, though the parent animal was probably sleeping on the banks of the Nile, that it kept bouncing around, and finally landed on the floor, accompanied by an imprecation and some blood. I promised to see him again and went home.

A partial upper set lies before me, that I wish to send you, both as a specimen and a curiosity. The base is sea-horse tusk; the teeth human, screwed to the plate by platinum screws. It is made (so says the dentist) on "the suction principle." Its suction was sufficient to draw out a good price—300 francs for eight teeth. I will send you a few specimens, the first opportunity. I wish I could send you a moving German dental depot.

We are now using many English plain teeth, made by Ash and Sons, of London. They are superior to American plain teeth in shape, strength and color. Ash can not make gum teeth, and does not pretend to. We use a little of the English "pink rubber" for gums, with plain teeth. Ash has a workman from Abbey's making gold-foil. As to lathes, they make finer machines than can be bought in America; but they are deficient as to dental instruments, except forceps, and they *do* make most beautiful forceps.

Our practice here is among the better classes, and is very pleasant—no jewing down. Our prices for filling are from four to twenty gold dollars—artificial work, four dollars a tooth. Our competitors, of course, get any price they can. We can not use the mallet here, except on the English, on account of a marked tendency to periostitis. The Italians and Russians will not bear the mallet.

Absorption, with hemorrhage, comes constantly under our treatment. We manufacture a soap that completely cures it. It is composed of Tunis soap, chalk, chlorate of potash, honey, and arrowroot.

We prepare a metal for filling teeth, that in strength, color, and fusibility, challenges any other in use. I send you a small piece. It can be melted in the hand without pain. [This "metal" is something like Wood's; but we presume, from its appearance, that it contains mercury.]—Ed.

We have, for to-morrow, a most difficult case of cleft palate, the fissure being more than an inch wide.

Your Friend,
F. Slayton.

St. Louis, Jan. 1866.

Dear Doctor:—Having failed to comply with your request to prepare an article for your January number, I will make such amends as I can by sending you a dish of promiscuous gossip.

A few weeks of absence makes home appear all the more pleasant on our return, and the changes that occur during that absence, though they may seem of but little moment to one who observes them as they take place, day by day, appear to the absentee, who takes them in all at once, as worthy of more particular notice.

A bridge of ice afforded me an easy transit across the "Father of Waters," and the crushed and sunken steamers and barges, that lay in promiscuous confusion "along shore," told of the power of the great river when obstructed in his onward flow to the ocean.

As a matter of more interest to the readers of the "Register" than the foregoing, I will mention the removal of the dental depot of Dr. A. M. Leslie & Co., to a more central and much more desirable locality than that formerly occupied by that enterprising firm. Their new location is on Chestnut street, between Fifth and Sixth streets, where they have a very fine, large store, well fitted up and very conveniently arranged for the accommodation of their patrons. Their stock of dental instruments and materials is large and full, and when added to a fine stock of surgical instruments and appliances will fill their capacious store to overflowing. Enterprises of this character deserve the patronage and support of the profession. May their success equal their efforts, is the best wish I can make them.

I also notice that Dr. John S. Clarke, formerly of this city, but, of late years, of New Orleans, has returned to his "first love," and opened an office in this city.

I am rejoiced to see the prosperous look which the "Register" puts on with the beginning of the new year, and considerable change which you have made in its title—a decided improvement. Our periodical literature is (to borrow a military phrase) a very important arm of the service, and its influence is too wide spread to allow it to retain anything local in *appearance* even in a name.

In looking over the January number of the "Cosmos," I notice some misapprehension existing in the mind of the editor, relative to a remark of one of the speakers in a discussion which took place at the Chicago meeting last summer. In the discussion on physiology, if I remember rightly, the speaker illustrated his subject by reference to the course pursued by honey bees in replacing a lost queen; and in describing the process used the word *drone* instead of *worker*.

Such a remark would mislead no one who had studied the subject of sexuality among bees, for it would be well known to all such that drones being males could not, of course, be transformed into females; but workers being undeveloped females could, when taken in a larva state, be so fed as to cause a development of the sexual organs, and thus become queens. As I mentioned the matter to the speaker soon after the adjournment, I am the more confident that the editor of the "Cosmos" has fallen into an error.

Hoping soon to be with you again,

I remain very truly yours,

C. W. Spalding.

Editorial.

"TIMES."

Not hard times, nor olden times—not even "good old colony times"—nor the "good times coming," but "The Dental Times," for January, which has already come — no, my copy hasn't, (but I hope it is on the way), so I looked at a copy sent to the "Dental Register." And what of the "Dental Times"? Certainly this much, at least:

Being edited by the faculty of the "Pennsylvania College," it has a strong editorial corps, which is slightly numerous, considerably able, and rather experienced. And as they all work, *emeritus* editor as well as the rest, and as the "Times" *are* (?) quarterly, so that they have ample leisure to revise and perfect their work, a good, strong dignified, sober-looking, but racy journal is the result. As a journal, it is thoroughly original, its matter mostly coming from the pens of its editors; yet it finds room for a good article from an outsider, when furnished. Its printers, too have the good taste to make it look a good deal like the "Register;" hence it makes a fine appearance. The readers of the "Register"—and, indeed, anybody else—can obtain a copy at the rate of one dollar, per annum, by addressing Prof. T. L. Buckingham, Philadelphia.

The "G. T. B." editor has made a discovery, and announces his gratification that his "old friend, Dr. George Watt," is again in the editorial chair of the Register; but if he will examine the "chair" closely, he will find that he labored under an optical delusion, induced, perhaps, by a simple accident, the printers, from force of habit, placing a "W." article among the editorial. But I am glad to be able to work for any department of the Register—glad, indeed, that I am alive; and it affords some gratification that I have *friends* who join me in the sentiment. And, so, with my best wishes for the success of the "Times," I am

W.

EXAMINATIONS FOR DEGREES.

We do not know what methods are adopted by our dental schools in conducting their "final examinations." The Ohio College has varied. The recent examinations were conducted in writing, and lasted, with each professor, from one to two and a half hours. The questions, or propositions, were written on the blackboard, or furnished on slips, and the class sat in their seats, as usual, and wrote out their answers. The faculty met, agreed on a per cent of correct answers requisite to graduation; and then compared notes, enabling the whole faculty to vote intelligently as to the correctness or incorrectness of each answer. The simple summing up of the tally-sheet decided the fate of the candidate.

The older alumni of the institution will see by this that the examination has been much more thorough than in their day. By this mode, each student is subjected to an examination of eight or nine hours. He, however, avoids the embarrassment of a new position. He writes his answers, as he usually sits, in the familiar lecture room, and in the presence of but one professor at a time. In this respect, a fairer test of attainment is afforded than can be obtained in the embarrassments incident to the "green-room." While rigid and thorough, it is fair and satisfactory. W.

"COLORLESS IODINE."

Dentists often feel that the local action of Iodine is desirable, where its use is interdicted on account of the unsightly color it imparts to the cuticle. In addition to the color imparted, tincture of iodine forms a sort of incrustation with the cuticle, that retards the absorption of subsequent applications. Both of these objections may be obviated as follows :

Take of

Tincturæ Iodini Comp.
Aquæ Ammoniæ fort. aa ℥j.
Camphoræ ℈j.
mix.

Let it stand till transparent. This is rapidly absorbed by the skin without change of color. The camphor may be omitted, if its action is not desired. In the treatment of the antrum this is a good external lotion. We obtained the formula from a medical friend, and are not able to give the proper credit for its discovery. W.

RESOLUTION OF THE MAD RIVER VALLEY DENTAL SOCIETY.

Resolved, That this Association is appreciative of the valuable services of Dr. J. Taft, Editor of the Dental Register of the West, rendered the profession, in continuing, ably and progressively, its publication during the recent crisis of our country, and now continuing, so interestingly and hopefully, its publication; and that it deserves the liberal patronage of every honorable practitioner, in our rising Profession.

Ed. Register.—The above resolution, passed at the summer meeting of the Association, was handed to me to transmit to you; but I unfortunately lost it. To-day I found it; and believing it to be, as it was then, the unanimous sentiment of the Association, it is now at your service. Our Society's next meeting will be at Dayton, the 6th of March. Come up and see us.

W.

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Original Communications.

DENTAL MATERIA MEDICA.

BY GEO. WATT.

PERSULPHATE OF IRON,—$Fe_2O_3, 3SO_3$.

IRON forms several compounds with oxygen. When these elements are united in the proportions of one equivalent of iron and one and a half of oxygen, or, which is the same thing, two of iron and three of oxygen, the compound is called sesquioxyd of iron. With this oxyd, three equivalents of sulphuric acid unite to form the salt under consideration; hence it is a tersulphate of the sesquioxyd of iron.

PREPARATION.—This salt may be prepared by several processes. It is usually obtained by acting on the protosulphate of iron, thus:

Dissolve a definite quantity of the protosulphate in pure water; add to the solution half as much sulphuric acid as the protosulphate contains; boil the mixture, and while boiling, add to it successive portions of nitric acid as long as orange-colored, or red fumes are given off; then evaporate to dryness. The remaining salt is the *persulphate of iron*.

It will not often be necessary for the dentist to prepare it for his own use, as most energetic druggists keep it on hand.

This, however, was not the case a few years ago. As its solution is often more convenient for the dentist than the powder, he need not always evaporate to dryness, in preparing it, but may stop when the liquid has gained the consistence of a thin syrup.

Physiological Effects. — Persulphate of iron acts on living tissues, by virtue of its affinity for albumen, with which it combines, forming a pale yellowish compound. The salt appears to unite directly with albumen, without undergoing any decomposition; and the compound, thus formed, is much harder and firmer than the clot resulting from the coagulation of fibrin, and is not soluble in an excess of either of its ingredients.

Administered internally, it acts as a general astringent, and is regarded, by many, as a valuable medicine in the treatment of hemorrhagic diathesis.

Uses.—The dentist needs it only to arrest hemorrhage resulting from extraction, or from lancing the gums. As its local application, assisted by pressure, will almost invariably arrest the bleeding, and as there are other internal remedies better, or at least better known, for such purposes, he is much more concerned with its topical than with it constitutional uses. It may be applied in substance or solution, on pledgets of cotton or lint, or on pieces of prepared spunk. As the clot which it forms with albumen is quite brittle, it is very important, in extreme cases, to apply pressure, to hold it in place, thus plugging the mouths of the bleeding vessels, till the fibrin within them coagulates and adheres to their walls, and so permanently closes them.

This salt is a most reliable styptic. A styptic, to be worthy of the name, must form, with some constituent of the blood, a solid compound not soluble in blood; and, to be of practical value in the mouth, the clot must be insoluble in saliva. The persulphate fulfills both these requirements to the highest degree. Many have learned to rely on it in practice, without a correct knowledge of its *modus operandi.*

I have promptly and permanently closed with it arteries as large as medium-sized timothy straws, which had been exposed and divided by the removal of tumors. Twice I have obliterated aneurisms of the palatal artery, by laying them open by free incisions, and forcing into them pledgets of lint, saturated with a concentrated solution of it, and applying pressure by means of a plate previously fitted to the roof of the mouth.

PERCHLORIDE OF IRON.—Fe_2Cl_3.

This salt, though but a sesquichloride, represents, as its name imports, the highest degree of chloridation of which iron is known to be capable.

PREPARATION.—The perchloride of iron is readily obtained by dissolving sesquioxyd of iron (jewelers' rouge) in pure hydrochloric acid, and evaporating the solution to dryness. Or if it is wanted in solution, evaporate only to a syrupy consistence. Or it may be conveniently and successfully prepared by dissolving iron in *aqua regia*, composed of two or three parts of hydrochloric, and one part of nitric acid, and evaporating as above. The reactions which take place may be represented by the following equation :

$$Fe_2 + 3HCl + NO = Fe_2Cl_3 + 3HO + NO_2.$$

PHISIOLOGICAL EFFECTS AND USES. — These are so nearly similar to those of the persulphate just considered, that but little need be said in this connection. The perchloride forms, with albumen, a softer and much less brittle compound than the persulphate. It is, therefore, more likely to succeed without the aid of pressure; but in all obstinate cases, pressure should not be neglected — neither omitted nor carelessly applied.

TANNIN, OR TANNIC ACID.—$C_{18}\ H_8\ O_{12}$.

Most of the vegetable astringents owe their activity to the presence of this agent. It is found abundantly in oak bark and nutgalls. The latter contain 35 or 40 per cent. of it.

It is prepared by percolation, or "displacement," with ether. But as it is kept in all drugstores, the dentist will never be called on to prepare it for his own use.

PROPERTIES.—Without being bitter, tannin has an intensely astringent taste; as found in commerce, its color is a lemon yellow; and it is often beautifully crystallized. With a solution of gelatin (glue) it forms a white precipitate, *tannate of gelatin.* With solutions of persalts of iron, it forms *tannate of iron*, a bluish-black compound, used extensively as writing ink.

PHYSIOLOGICAL EFFECTS.—Tannic acid is an active astringent. It has a powerful affinity for albumen, fibrin, etc., its medicinal effects depending on this principle. Its powers are lessened, and its effects localized, by the character of the compound it forms with albuminous tissues Tannate of albumen is not soluble in water, or in any constituent of the blood. Owing to this fact, tannin is a very reliable styptic, more so than any others, except the two just considered. It forms, with the blood, a firmer clot than either of the others; but it is so thin, that, without support from judicious pressure, the blood will burst through it, in severe cases.

USES.—Tannin is used by the dentist to .arrest hemorrhage, to allay sensibility of dentine, to cure chaped lips, and to counteract a spongy condition of the gums. For the latter purpose, the tincture of galls, or a solution of tannin in diluted alcohol, will afford the best preparation. On sensitive dentine, its action is so superficial, that it does not accomplish much. The first portion of it that comes in contact with the gelatinous part of the tooth, forms with it an insoluble layer, which shuts out subsequent portions. Hence, little or nothing is gained by repeated applications of it. Its solution in glycerine and water is an admirable application to sore lips. The dentist often finds it necessary to cure the lips, in order to operate, especially on the posterior teeth. Glycerine and rosewater, each half an ounce, and tannin ten grains, mixed, applied three or four times a day, will answer a good purpose.

As a styptic, tannin may be relied on, with the aid of pressure, to the exclusion of all other substances, except the persulphate and perchloride of iron. The mode of applying it, and the means of pressure, will suggest themselves to the dentist.

THE DUTY OF THE DENTIST TO HIS PROFESSION, HIS PATIENT, AND TO HIMSELF

BY JULIUS CHESEBROUGH.

[Read before the Michigan Dental Association.]

WHATEVER may be said upon this topic, on one thing we can certainly rely—that we all fall far short of our duty. To know how to perform that duty, so as to do justice to all, is worthy of our study and care. God has ordained for us a work, and we have chosen this one, upon which to hang our attainments, to raise them, each day, higher upon the standard of excellence. Let us look into the sphere we are filling, and find out, if we can, what the fulfillment of God's ordinance is.

I say we have chosen this work, and to labor in this field, for our life-task,—a field immeasurable, unbounded, unfathomable. He has endowed us with certain faculties, which we are not to hide in a napkin, but to improve, and add interest, so that when we surrender them, they will be greatly increased. He has endowed us with a brain, a seat of reason, upon which impressions can be indelibly printed, and from which emanate thoughts of good or evil. He has given us eyes that we may see, ears that we may hear, and an utterance that we may be able to impart what we know. All these are *not for our own good*, but for the benefit of mankind. His intention never was that we should be for ourselves alone, but that we should minister to the wants of our neighbors as well as to our own.

Were it best that there should be no divinity, no growth in mind, no continual approach toward perfection, He would never have "formed us after his own image." But that He has done so, and that the race of man comprises so many beings, is proof that His will is that we go onward and upward.

In consideration that our duty is one of progress, do we fill the measure God has ordained for us; and if not, wherein do we fail?

I call your attention to these three topics:

Our duty to our profession, our patients, and ourselves. I speak to you, individually, and, classing as a whole, I embody the question into that word, *Our* duty,—not yours, individually, nor mine; but let each one of us take these matters to himself, and ask, Have we done our duty?

The question may arise in the mind of some one here, what duty do I owe to any of these three that I do not fulfill?

Let us look upon our duty and see what it really is.

For long, dark, weary years, our profession groped its way, "dragging its slow length along," until it has taken a sudden start, and has now its place recognized and accepted by the world.

From whom did it receive its impetus, and what were the labors of those that gave it that impetus? We all know whom we honor, when we proudly repeat the names of Hunter and Bell, Tomes, Kolliker, Townsend and Harris, and the goodly number of the early Apostles, who dispensed the doctrines that we all know, little by little. Have we done our duty to our predecessors, who have given us of their toils and labors, years of night-study and investigation? Let each one of us answer the question, and answer it well; and from this moment, henceforth, go and do likewise.

Our profession, I have said, has received an impetus unparalleled in any record. It has sprung into existence during the past century, and has now an accepted position from which it will never recede.

But let me ask each one of you, how much have you helped to advance it during your lifetime; and where have your labors shown themselves? Would to God that I had the whole world of dentists to put this question to, and to hear the answer that must come up from some breasts. Have your labors been such as to elevate the profession above that of mere mechanical employment? Have your researches into that field of science, ready for the sickle of investigation, been such as to enable you to bind up a sheaf, from which you may separate the grains of fact from the straws of theory, and bring those grains before the feet of your compeers, and say, "here is my contribution? Or have you been content to look in upon the workers in the field, and see how they gather in the straws, and in the great showing, been content to look at their grains, and gain from their labors, that for which you have returned no equivalent? Have you, by your example and counsel, lifted up your ignorant brother worker, so that he will look upon you as a friend of elevation? Or have you, by derogatory remarks, tended to degrade, rather than elevate? Have you studied day and night to fit yourself for the sphere you occupy? Have you investigated the science of disease, so that you may know how to combat it in the thousand shapes that it manifests itself upon those organs, which it is your specialty to treat? Have you made a note of such labors, and given them to the world, thereby adding your grain to the store already gathered? Or, on the other hand, have you been content to set yourself down, in indifference and carelessness, and eat of the fruit of others' labors? Have you given to your patients that high character of operations, which approach perfection, thereby enabling them to pay regard to these organs which are to them worth more than jewels, and which brings the profession up, in their minds, to the standard of excellence, and wrestles it from its low position where, through carelessness of operators and ignorance, they have consigned it?

You may say, as I have heard some say, "I can not do such things in my practice, my patients wont pay for it." I say *you can* do such things in your practice. Do you *always* look merely to the pay for the work accomplished? Then, indeed, you will always be a dolt. Strike above all this,—let such thoughts take themselves to the wind; and strive to bring up your profession, instead of bearing it down. I tell you, sirs, your patients are able to discriminate; and no one will ever object to remunerating for benefit received.

It may take you some little time to educate your patients, but they will be easily educated; and once educated to appreciate, is a faculty never lost.

How much better for you to feel that a patient owes you much beside the money consideration received, for the service done, than to meet one and have your conscience tell you you did not do that patient justice; for his inability to pay, or your ignorance of the case, has rendered him a deformity. I always want my patients to feel that they still owe a debt of gratitude for service done.

We need more careful, earnest thinkers, more hard investigators, more workers who will record their research. We have no literature, or next to none. What we have is good enough; but it is not enough. Your daily practice affords something that is of moment to the rest of the profession; then why not give it?

A young man once said to me, "Your profession seems to comprise so little that it must be very easy." Years have passed since that day; and his opinions have wonderfully changed. "I thought," says he, now, "that the practice of dentistry was that of filling, extracting, and inserting teeth; but now, after years of study, I find that I have always been in error. I have found out that he who only does these three, without inquiry as to the nature and source of disease, knows nothing. I thought it an easy road at first; but I find it a rough one, and that I have to pick my way among its rocks and stumps, and in the darkness, that sometimes lies before me, I find myself lost." And so will we all be lost unless we study our charts, and wherever we find a sunken rock, note it, at once, for the benefit of humanity. What would the world say of that sailor that discovers a reef in mid-ocean, and say, "I will say nothing of this to any one. I will know where it is, and it will not baffle me more. Let those that sail this way find it out; and what matters it to me, though a shipwreck ensues, and life is lost?" Would he not sink into utter disgrace; and would not he receive the contempt of the whole world? And how do you—one and all of *us*—differ from him?

Your duty is, by your industry and faithfulness, to elevate your profession,—by your daily walk and conversation to give it additional dignity.

And what to your patient?

Frequently the very bliss of ignorance presents itself to you. What is your duty in such a case? to let that ignorance remain? or weed it out from a brain adapted for higher things? The preconceived idea that many have received is, that their teeth are worthless as soon as they give them trouble; and the sooner they are rid of them the better. Have we not a duty to perform in such a case as this? and must we not, at once, turn teacher, until we see that our patient has learned the first rudiments of common sense? We are all very susceptible of fact, and are easily convinced. Let us but know the fact, and we are at home. And our patients are as easily influenced as ourselves. We have but to speak the word, and our knowledge of the matter is at once accepted.

We must point out the error of their lives, and let them understand that these organs are of more value than any others. Show them that, by proper treatment, they can be saved; and you will not have to teach those patients again. I can call to mind many who are among my best patients, who are educated patients, who doubted greatly at first, but who are now beyond a doubt.

Our duty is to give, as freely as we have received, of that which will tend to elevate our calling. Indulge in no theory, but confine yourself always to the fact; and give that fact as tersely as words will allow, coming down, for the time being, to the level of the capacity of your patients, and let them ascend, step by step, gaining confidence with you, at each successive one, until they will accept your direction as law, and abide strictly by it. Never deceive them upon the lightest matter or most trifling occasion. Let them gain confidence in you, and your work is done. Where ignorance is at fault, educate it to the excellent standard; where obstinacy comes in contact with you, send it away, have nothing to do with it, wash your hands of all connection with it, and let it depart in peace. Education will always appreciate a well appointed labor; but stubbornness—never. Send it out of your sight. When a patient comes to your hands for treatment and advice, you, must be prepared *to give* that advice; and woe to you, in the last day, if you have given it wrong. God's judgment is everlasting, and will surely find you out, when all things are to be known. It will not be your fault if, after knowing what is right, and knowing, dare maintain, your patient does not accept your advice. But do not be drawn into doing a wrong act because your patient insists upon it. Have the manliness to come out boldly and say, "*I wont*," even though the heavens fall. Always advise your patient to have the best operation performed, regardless of expense. No one can ever master his profession that will advise otherwise. Your patrons will, sooner or later, find you out; and your sayings and doings will surely come home to roost.

Our duty is to be always kind and gentle—never rash or petulant. No annoyance should ever rouse our temper; but we must smother the burning flame and quench the fire. Your patients will soon become affable and easy if they see you undisturbed. But when you are cross, and speak sharply, they will ever remember it.

If you have an operation of magnitude and severity, acquaint them of the amount at once. They will abide by your decision better than when deceived. Whenever pain can be mitigated, it must be done. We were not ordained to create pain, but relieve suffering; and this we can do, if we but know our duty.

With children, our duty is a greater one, — kindness, all over, within and without, in the very atmosphere, in all the surroundings, must be inflexibly maintained. By so ingratiating ourselves into their affections, we may make our operations a source of pleasure instead of dread. We hold the power within us; and, if we will, we can do as we please. We must be firm, yet courteous; inflexible of purpose, yet affable of manner; and, knowing our duty, maintain it.

Many with whom I have spoken these things have said to me, "I must live; and to live, I must cater to the fancy of my patient." To all such I can only say, that if, through your own or your patient's ignorance, you cater to their fancy, you do yourself and them great wrong, and the gain that results from such action, affords no pleasure. Better starve than sin outright. Be poor, but do your duty; for gold, gotten through deceit or falsity, will melt away.

And what of the duty you owe to yourself. This age demands intelligence; it demands thought; it demands knowledge; it demands *brains*. Are we up to the standard? Do we appreciate our position? Are you, gentlemen, each one of you, satisfied with your attainments? Are you doing your duty to yourself, with the knowledge you have, and would you trust yourself under your own hands? Are we thoroughly acquainted with the intricacies of disease, and the complications of the parts which we have to treat? Can we grapple with all the minutiæ of morbidity of function, which every day comes under our observation?

How many pass over these things as trifles, which are "apples of gold." I have heard many persons say, "I never think of examining into the condition of the secretions of the mouth, or of any thing but the teeth. I look at them and what I can not fill I pull. I never ask about the patient's general health, symptoms or afflictions. I do what I can to the teeth, and let them go." I tell you, sir, that if you did inquire about these minutiæ, and study more of the diseases that have their origin or influence in or upon the teeth, your labors would be much easier than they now are, and your patient would be better satisfied. We must look these matters *square in the face.* Our profession is not even with the age, it is far behind it. There are some who are equal to the hour; but the laborers are few. The age is demanding of us better work, more perfect operations, and, above all, a knowledge of disease and complications that show themselves upon the teeth, in order that we may save from ruin the thousands upon thousands of organs that now go to destruction.

It is no less a duty to the profession and our patients than to ourselves that we should know these things. Our education must be of a higher order than that of being self-taught, or of receiving it from a self-taught preceptor. The world demands it, our patients need it, the profession will insist upon it.

Do we, as a profession, study enough? I emphatically say no!

Do we think enough? No! Do we investigate enough? No! Do we write enough? No!

From whom do we receive all our intelligence? From a score of dental writers; hardly more.

It is a burning shame to us, that the labors are thrown upon the shoulders of these few, who need the time that they give for our benefit, for their own rest.

Let me put this question right home to each one of you, sirs, Have you done your duty in this respect? Freely ye have received; have ye as freely given?

It is of no use to say you can not write. Can you think, or act, or do, or say? Then say it at once. I can not learn for you; but I can learn something from you. By interchanging our ideas, we get them sharpened, and what's the harm if they do cut close? So much the better.

Interchange ideas with your brother practitioner; discuss the thousand topics (every one of which is almost an untrodden field) whenever you have opportunity. It will give you an insight such as you can not gain otherwise. And your neighbor and friend (for what are we other than friends) may know something that you do not, as the result of his investigations, and you, in turn, impart to him that something which he may desire to know.

We are none of us too old to learn; and I never meet a professional man, but that I talk with him; and I always feel better for it.

We must study more than we do. Work by day, study by night; and by having a system, and devoting a few hours every day, we will be astonished to know how much we will achieve in a single year.

We must do our duty above all else, contribute our share to the general fund of knowledge. What if every one were silent? Where would our knowledge be? and of what avail would our profession be?

What sort of workers would we be were we closed up within ourselves?

Let the ball roll onward, gathering as it goes; and let us urge ourselves to new endeavors in the field of dental science. Look at the immensity of the sphere that has not been touched upon by any writer. Scarcely any subject has had more than a passing thought, compared with the great unwritten, unsaid. How little has the pathology or physiology of dental science received from pen of the dental writer, and how little has surgery received, where there is so much that is of great importance!

Who, among us, has not had strange cases come under our hands, and from which we could write an instructive article.

And when we meet together to exchange our views, do we come prepared to instruct as well as to receive instruction?

There is not one of us that could not bring something to instruct the whole. But have we done so?

If not, then let us start out on a new track, and make a resolve, that, from this time forward, we will be what the age demands. We will learn what is now unlearned. We will do what we have left undone. Where we have failed, we will now succeed, and where have destroyed, we will now build up. We will strive to have our operations perfect and successful, and, by study, will be enabled to combat disease, and devote a part of our time to record our labors for future generations. My watchword shall be *I will;* and I will ever remember that "what man has done, man can do."

With such a resolve, well made, and surely kept, we will grow apace. We may be the beacon light to guide some follower over a troublesome passage. We may be benefactors to the human family, and do our duty to the Profession, our Patients, and to Ourselves.

CATARRHAL INFLAMMATION OF THE ANTRUM.

BY DR. ISAAC DOUGLASS, ROMEO, MICH.

[Read before the Michigan Dental Association.]

THE pituitary membrane of the antrum, or maxillary sinus, may be considered as a nearly closed, sack-like appendage, or continuation, of the schneiderian membrane. When in a healthy condition, it is constantly lubricated by a slightly glutinous fluid, which is transparent, inodorous, but slightly acid. Inflammation changes this secretion, both in quantity and quality, first lessening, and then increasing the quantity; as it is increased by the increasing inflammation, it becomes more or less vitiated, according to the degree of the inflammatory action.

DIAGNOSIS, SYMPTOMS.—Sensation of chilliness, on exposure to air and on moving, inclination to get near the fire, cold feet and hands, or else burning in the feet, heat and heaviness about the head during the disease; with frequently a burning sensation in the external ear, on the side affected, a full or swollen sensation of the cheek (or cheeks, as the case may be), without any perceptible change (that is to vision), except a slight fullness and increased redness of the eye of the affected side. A fixed, heavy, pressed sensation in the sinus, at first slight, but gradually increasing in severity, until it becomes, or is attended with, a deep seated, heavy, aching pain. The teeth below the sinus seem elongated, tender on shutting the teeth together, but not to lateral pressure, yet a constant inclination to shut them. Soreness of the facial muscles, but principally the muscles of mastication. Usually the first noticeable change in the secretions is a thickened consistency and tenacity, then it takes on a pale yellow tinge, gradually deepening to lemon color, becoming muco-purulent, but still retaining its glutinons character; or it may change to an orange color (but in that case it is tough, ropy, and difficult of detachment, so that if it flows back into the throat, and is coughed up, it may be drawn from the mouth with the fingers, even giving pain in the antrum as it is thus detached by being drawn through this circuitous rout). As the disease progresses, the secretion becomes less ropy, tinged with, or considerably mixed, with blood, or degenerates into a muco-purulent, greenish, offensive matter, disgusting to the patient and all around him.

Under either of the above conditions the discharge may be so acrid as to irritate the schneiderian membrane and the fauces to such an extent as to be even more difficult to bear than all the suffering in the region of the antrum. The pulse varies very much, sometimes full, bounding, with an increase of 10 or 20 beats, or it may be small, wiry, with an increase of from 5 to 30 beats per minute, with a firm quick stroke; tongue coated white or yellow.

Causes.—Exposure to cold or wet when unduly heated. Acids generated in the stomach. Imperfect digestion and assimilation of food, and consequent bad condition of the blood. Scrofulous taint in the system, or hereditary predisposition to catarrhal affections. Often repeated violent efforts to clear the nasal passages by blowing the nose during common catarrh.

Patohlogy. — This disease consists in a specific irritation of the mucous surfaces of the sinus. It is believed that the morbific influences which originate catarrhal inflammation (whether in this cavity, the nostrils, frontal sinuses, eyes, posterior nares, fauces, throat, pharynx, æsophagus, glottis, trachea or bronchial tubes) or all together affect, primarily, the organic nerves which supply the surfaces principally disordered, and, through them, the system generally. Owing to this change in the condition of the diseased texture, the functions of secretion and circulation in the part are specially deranged. The chief modifications of the disease arise from the degree in which the constitutional actions are disturbed, and grade of irritation produced in the capillaries of the part.

Prognosis.—Catarrh of the cavity is generally a mild ailment, attended with little or no danger, under a judicious course of treatment. But in aged people, or in scrofulous subjects, who are much debilitated, it may prove unfavorable. Obstinate and difficult cases are characterized by continued irritation, abundant muco-puriform secretion, with closing of the duct; or from the acrid secretion constantly flowing back into the throat, it may communicate the diseased condition of the posterior nares, fauces, throat, pharynx, œsophagus, and soon through the alimentary canal. Or, on the other hand, it may be communicated to the glottis, trachea and bronchial tubes, and thus terminate in chronic bronchitis.

Treatment.—Aconite drop doses of 3d potency. Almost always in the commencement of the treatment, even if the fever is very slight, also when on an increase of the cold, the discharge is suppressed,. it is followed by headache, or increased fever and chilliness.

Podophylin; 2nd potency.—When there is disordered stomache, headache with heaviness, burning sensation in the scalp and external ears, heavy coating on the tongue, discharge orange color.

ARSENICUM; 3d potency one grain. — When there is not much fever, the patient wants to drink often, but little at a time, feels very weak, and is easily agitated, discharge acrid and corrosive, with burning and soreness or sensitiveness of the posterior nares; exercise and warmth are agreeable, and yet exposure does not aggravate the disease.

NUX-VOMICA; 3d potency drop doses. — When arsenicum fails to relieve, or the mouth is dry and parched, without much thirst, constipation and great heat of the head and face, fever and chills alternate in the evening.

PULSATILLA; 2d dilution, drop doses. — Loss of appetite, and small discharge, thick yellow (lemon color), or greenish and offensive, or streaked with blood.

HYDRASTIS CANADENSIS — Discharge ropy, tough, difficult to detach, excessive accumulation in the throat. This remedy may be alternated with podophylin, with good effect, when the discharge is orange colored and tastes like raw eggs. Dose of hydrastis tincture, in drop doses, of 3d dilution.

An occasional dose of sulphur, drop dose, once in 2 or 3 days, 3d potency, often does much to eradicate the disease, where it assumes a chronic form.

DIET, &c.—It is highly important that the patient have a light diet, gruels toast water, or dry toast, scalded milk, farina, corn starch, &c., &c. Hot foot baths will do much towards arresting this disease in its early stages, particularly if the feet are inclined to be cold; but in order to get much benefit from them, they should be continued for at least 20 or 30 minutes, adding a little hot water as often as can be borne.

Doses of any of the above remedies, except sulphur, may be repeated 2 or 3 hours apart.

AN ADDRESS.

BY DR. FIELD.

[Read before the Michigan Dental Association.]

Gentlemen of the Michigan Dental Association:—At our last annual meeting, held at Ypsilanti, it was "Resolved," that it was the duty of every member of this honorable body to write an essay to be read before this association at its next annual meeting on some subject pertaining our to profession. I am sorry to say that this fact had entirely escaped my mind until some three or four days since, when my attention was called to it by seeing the call of the meeting in the "Register." It was a late hour at which to commence the composition of an essay on any subject that would be of interest to such a body of men as I see around me. I felt very much as the five foolish virgins did when the bridegroom came. I was without oil, or rather, if I had any, it was unhandy to get at. But I wished to write *something*, let it be ever so poor, The edict had gone forth; and write, I must. What to write was the next question. Over that I pondered, until my brain was so muddled that I gave up the attempt, but subsequently made another effort; and the subject that I at last selected was "Dental Societies and their Influence," which subject may be a *little* outside of the intended meaning of the resolution heretofore spoken of. A treatise on some dental specialty may have been meant. If so, I must claim your indulgence. Of such we shall, I hope, have many ere the close of our session. Would that I could wield the pen of an Atkinson, a Taft, a McQuillen, a Buckingham. I might then give you some idea of the *benefit* of dental societies; but as I *can not*, I will, in my own quiet way, tell you what *I* think of them. They are the fountains from which we get our nourishment; and he that does not partake of their life-giving waters, is a sloth and a sluggard. Who is there among you that cannot call to mind some poor moldy brother dentist, who, for the last twenty years, say, has been beating backward and forward over the same track, never going a step beyond, never even daring to dream of such a place as the happy land of Canaan; one that, twenty years ago, would always extract an aching denture, and will *always* do it now; never for a moment believing that it might be saved, by proper and judicious treatment; one who, when he hears "a rasping on the scraper at the door," runs his fingers through his hair to make it stand on end, and, as he supposes, give himself a *professional* air, that he may entrap some unwary victim by his sage look, and lead him to believe that he is possessed of more knowledge and ability than is really safe for one mortal to carry, and not explode; one who, did his unsuspecting patient but know his *real* worth, would shun his blighting touch, as would the insect the dazzle of the candle's alluring blaze, did he but know its scorching heat. Mark my word, gentlemen, that man never attends a dental society or association. *He* knows so much that he can learn no more; and from his immense storehouse of knowledge, no others shall fill *their* barn. If a brother practitioner calls upon him, he is asked to take a seat in the *reception* room until our *knowing one* is at leasure to see him. When he does make his appearance, it is with a repellant air, as much as to say, if you think that you are going to get a peep into *my* "Sanctum Sanctorum," you are much mistaken; the effulgence of *my* greatness is more than you can bear. Such a man, gentlemen, you *always* find an anti-association man. Had he made it his duty, and had it been a pleasure to him to always attend the gatherings of his dental brethren, how different would be both his acts and feelings; how much more would he know; and how much better would he feel towards his neighbors; no great discoveries or inventions are ever perfected by one mind. One may guess an idea before unthought of, and know that when put into harness, it may be of great benefit to his fellow man; yet he may not be able to bring forth that idea into any tangible form. Now if he, after fondling his pet for a time, should throw it aside, it may be lost forever. On the contrary, he gives it to the world, a thousand minds receive it as a diamond uncut; and a thousand pairs of hands set busily to work to put it into shape, that it may be of benefit to the world at large, and to their own pockets in particular. Franklin first snatched the lightning from the clouds; but it was of but little use to the world, until bridled by Prof. Morse. And so it is in our profession. Of the thousands of dentists now practicing in the country, no two think or act exactly alike. You may perform a certain operation in a certain way, and I in quite a different one, and both may be successful; and yet, had we given each other the benefit of our own experience, and explained the *modus operandi* by which we gained a desired result, we might have taken from the two and attained a better one. Another good grows out of our dental societies, and that is our becoming better acquainted with one another. We mingle together, in friendly concert, at our "feast of reason and flow of soul;" and we feel that it is good to be there. He of whom we would yesterday have spoken an unkindly word, now commands our respect. We go home to our different places of business with a good opinion of ourselves and every one else. We all feel at least an inch better than before. Nor do the good results of our meetings stop here. They go forth to the world. We have all learned something; and our patients get the benefit of it, and they *appreciate it*, and that, too, gentlemen, in a way that not only makes our hearts feel light, but also adds a little to our *cash* receipts; some, I presume, will take umbrage at the last clause, and say that our *duty* and a love for our chosen calling, should be the sole motives to sustain us. To them I say that if they choose to eat their bread alone, they are welcome to do so; but, as for *me*, *I* want a little *butter*. Love, duty, and a *proper remuneration* for my labor, must go together; and I always feel that when a patient comes to me to have an operation performed, and comes with full confidence in my ability and integrity, and is willing to pay me what my skill and labor are worth, for the time spent, that I can do better for *him* than for one who takes his seat in my chair, with one hand grasping his pocket book, lest I take more from it than some one else might do. Those that attend all the dental meetings that they can, it costs them time, and it costs them money; and who is to receive the benefit of what they learn while there. *Their Patients*, and they are the ones who should foot the bill.

Thus, Mr. President and gentlemen, have I tried, in as few words as possible, to give you some slight idea of my opinions regarding "dental societies and their influence." May all of us often be permitted to stop at these fountains by the way side, in our journey through life, and drink of the waters, there so freely given, that they may strengthen and nourish us on the weary road, and with hands united in one common brotherhood, may we ever be ready and willing to assist each other over the rough and rugged places, our song shall be love, and our motto, "A long pull, a strong pull, and a pull all together."

DIGESTION.

BY DR. J. P. HOLMES, JACKSON, MISS.

DIGESTION is the process by which the food we take for our nourishment is brought into that condition in which it may be taken up or absorbed from the alimentary canal by the vessels specially appointed for that function. Unlike the process in the vegetable kingdom; which require, for their nutrition, only a constant supply of inorganic substances, such as water, carbonic acid, saline matters, and the like, which, being already prepared for absorption, are taken in by the plants, and readily converted into material, suitable for their maintenance and growth, requiring no preliminary modification or complex physical structure. In man, for whom simple inorganic substances alone will not furnish a support, but who requires organic materials which have previously formed a part of animal or vegetable bodies, this, too, in a solid form, and which, before preparation, has to undergo numerous modifications, as a consequence, there is required a more complex alimentary arrangement for proper digestion. Formed and brought into existence by One whose attributes are Omnipotence, Omnipresence and Omniscience, the physical structure of man, is deficient in no one respect, but has provided functions and relations necessary to meet every exigency — the study of which cannot fail to impress one with wonder at the display of wisdom in his Creator. His anatomical structure has provided all the functions for locomotion and labor to facilitate his efforts for support; and in the alimentary process there is wanting nothing to reduce his food to the condition for nourishment, In his mouth, the first receptaculum pabuli, he has provided a set of teeth, by which, in their mechanical structure, he can readily masticate his food, which, after maceration and insalivation, passes down through the fauces into the pharynx and œsophagus into the stomach. The stomach, which is said to be an expansion of the œsophagus, is provided with such a fibrous structure that the food being brought into it undergoes a continual rotation, so that every particle is impregnated with gastric juice, the second fluid in the operation of digestion. From the stomach the remainder of the mass, in a state of chyme, a part having undergone the assimilative modification for nutrition and absorbed by appropriate vessels, passes on down first into the duodenum, where it meets with the pancreatic juice and the bile. There it undergoes such modifications that the chyle, which is the nutritive element, is absorbed by the chyliferous vessels, which arise at the mucous surface of the intestines, and is passed through the mesenteric glands to the thoracic duct, and finally passes into the left subclavian, thence on through other vessels, it undergoes purification and other modifications to its office of nutrition. The remaining chyme, passing on by the peristaltic motion of the bowels, meets with the intestinal juice, the fifth and last fluid in digestion, and undergoes other modifications and extractions. From the duodenum it passes through the jejunem, ileum, cæcum, colon and rectum, finally, as excrementitious matter out through the anus. A consideration of these functions readily substantiates the conclusion that man was intended for a long and happy age; and were it not on account of his base irregularities and inattentions, the average age of man, instead of being the short thirty-three years, would easily be lengthened to the primitive three score and ten. Disease mainly originates in improper digestion, and the first loose cog is found in the hasty and improper modification of the food, which is more easily liquified when reduced to small particles, for then it can be brought in contact, in every part, with the fluids of the mouth and stomach; but if this is not done, it passes into the stomach in a solid form—there remaining an incubus originating impure gases, and causing a disarrangement of the whole system. These gasses or acids seem not only to vitiate the circulation, a proper condition of which is the *sine qua non* of health; but they also, by a reflex action, are brought into contact with the teeth, and it is by means of these chemical agents that caries and the numberless other diseases to which the tooth is heir, are superinduced. It is evident, then, that good teeth and proper mastication are the Palladium of a sound body and a sound mind (*sana mens in sana corpora*), for the latter is a dependent on the former. Of this fact, no people seem to be so forgetful as the American. They seem to act on the principle of eating to live, and the act itself is more a task than a pleasure. Seated at the dining table, haste and silence is the rule of action. They gulp down mouthful after mouthful, and forcing it down into the stomach, forgetful of hygienic principles, crowd it to such an extent and excess that its energies, being overtaxed, it does not perform its functions, and digestion is but half accomplished. Resulting from this, we every day meet pale and cadaverous individuals, whose anæmic diathesis too clearly indicates the embodiment of disease, their trembling limbs scarcely able to support their emaciated frame ; their colorless lips, and the absence of the bright sparkling of the eye, all evidence a gross inattention or ignorance of the primary principles of health. A remedy of these evils devolves not less on the dentist than the physician. The importance, however, of this profession, until late years, has been totally ignored, and the prerogative of benefiting the human race was claimed by the medical profession ; but the earnest and successful efforts of the bright luminaries in the dental profession have raised her standard and importance to a level with her sister. If, and it is to be hoped they will, the younger members who are about to assume the paraphernalia of graduation will, by diligent study and research, seek to elevate their alma mater still higher, the importance of the dental profession will continue to increase, and the primary, principles of health will be more extensively disseminated.

February, 1866. Cincinnati, Ohio.

SPLITTING FORCEPS.

BY DR. GAM'L JACKSON, WINONA, MINN.

There is probably no other instrument in dental surgery quite so illy adapted to its purpose as the ordinary splitting forceps. This instrument is required in extracting the inferior molars under various circumstances ; where there is exostosis, great divergence or convergence of the roots, or where, from whatever cause, the tooth appears to be "clinched under the jaw," and resists the usual efforts to dislodge it.

Not one dentist in twenty has a splitting forceps, and not one in fifty has ever used one. The chief reason of this is because the instrument is not properly constructed, rather than on account of the infrequency of cases requiring its use.

Within the past two years I have had four cases of first and second molars which required splitting, besides being the subject of another case myself. The first and second efforts, made by a strong and skillful practitioner, in the latter case, resulted in failure. The third effort, by my own direction to use steady lateral force, accomplished the evulsion of the tooth, at the expense of the external alveolar plate, reaching to the adjacent teeth.

Of the other four cases, I succeeded in luxating the teeth in two instances, the others remaining firm. Three of these teeth I left in the jaw, but by splitting the other one, which, but for this operation, would also have remained, its roots were removed without difficulty. In this and my own case, the roots were bulbous.

All of these teeth were in unbroken arches; and as they all had full crowns, the probable result of an application of the separating forceps, as they are now made, would have been a general "loosening up" of at least all the teeth posterior to the one being split.

The splitting forceps of the depots are defective in the following respects: power, strength and shape. To be efficient and safe, they should have double their present leverage; they should be as nearly inflexible as possible; the cutting edge of the blades should have curve enough to insure the fracture through the bifurcation; and, most important of all, they should be provided with a perfectly reliable, peculiar stop, to prevent the closing of the blades further than necessary to split the tooth.

With such an instrument any inferior molar might be split, in a crowded arch, without danger to the contiguous teeth, and the operation of extraction be made easier to both patient and operator.

ADDRESS TO MICHIGAN DENTAL ASSOCIATION.

BY J. A. WATLING, D.D.S.

The Retiring President.

Mr. President and Gentlemen: — Another year has rolled along upon the ceaseless wheels of time since we last met together; another year, fraught with our pleasures and sorrows, our toils, our thoughts, and our deeds, is gone. And as your retiring President, I cannot avoid the question, What have we done, as an association, for ourselves, for each other, and our *noble* profession, in the year that, for us as a nation, has so signally gone? Gone, with the tears of the bereaved, the groans of its dying, and graves of the dead, for the cruel war, which convulsed our country from its Atlantic to its Pacific shore, is ended, and other trembling nations *feel* that America *will* be *free*, her people the most enlightened, their principles the most exalted, their professions the most *advanced* and *perfected*. What have *we* done to elevate the standard of our chosen profession? to wrest it from the net-work of ignorance and empiricism that entangles it? I need hardly say that it gives me more than ordinary pleasure to note the increased fervor manifested in our association, and the general interest awakened all over the country, during the past year, resulting in the organization of *new* colleges and associations, which we trust shall serve as strong pillars whereon to build the structure of our brighter future. Another very encouraging fact is the increased number of students attending our dental colleges, and especially those from our own State, which far exceed all that have gone in time before. With reference to our failure to establish a dental department in the university of Michigan, I must attribute it in part to the want of that *zeal* and earnestness that must ever accompany all great and important undertakings. We must remember that no great end is accomplished without *great* effort; and, gentlemen, let me assure you that *this* is a *great* and *important* matter, both to us as a profession and to the medical department of the university;

it being an experiment to determine whether *specialties* can be taught in harmony with general medicine. If it should prove successful, (which I believe it will, if ever tried), I hope the time will come when every regular medical school shall have its chair of dentistry, as I believe it to be the true way of teaching our science. Many of our best medical colleges are alive to the necessity of establishing chairs of specialties, and the subject of dentistry has already been agitated as one of the *most important.*

Then let us *persevere* and we may yet see the degree of D.D.S. conferred in our noble university before it is by other similar institutions; for do we not all believe that the dentist should have as thorough a medical knowledge as the oculist or aurist? And are we not ready and anxious to do with our might whatever we *can* do, that he may attain it? Those of you who were present at the meeting of the American Dental Association, in Chicago, must have been highly gratified with the interest manifested in our department by the general practitioner, and the more perfect recognition of dentistry as a very essential specialty of medicine. And now, gentlemen, whether or not the character of our profession and the interest thus manifested in it, be maintained, whether the benefits to be derived from it shall be perpetuated, depends upon *us*, both personally and as an association. Although we may still be groping our way in comparative darkness, yet rest assured that the day begins to dawn upon a higher and nobler professional standard. The sun of science, so long hidden under the vail of empiricism and ignorance, begins to break through, casting its vivifying rays upon us, and will continue to brighten and lighten our path, till we walk as in perfect day. The lovers of darkness, who were banded together to practice their arts of imposition and quackery, intent only upon filling their coffers at the expense and comfort of their patrons, already tremble at the steadily advancing step of progress. They are not here to-day; they have no desire to meet and take counsel with those who seek the happiness and welfare of humanity, the best interests and brightest prosperity of dentistry. We cannot go back for them. Do they care for improvement, and wish it success? Let them grasp the right hand of fellowship we now offer them; with us *toil* zealously and long; with us to reap in the glorious harvest-time. Let them unite with us in these associations, not for pecuniary benefit, but for mutual improvement, counsel and advice, that we may be the better able to serve those requiring our assistance. Let each member come forward and give freely any knowledge that may benefit another, however trifling he may deem it. And now, gentlemen, let me here impress upon your minds the urgent need we have, individually, of this unselfish interchange of thoughts and feelings. It is absolutely necessary that we each do what brain-work we can, and bring forward the result, though it be but a *mite*. I well remember a single idea I received at Saratoga, which paid me for my journey. Our thoughts are but atoms of the great world of thought; and whether they glimmer with a flickering light, or shine more brilliantly with the *true fire* of genius, they each have a part to perform, a mission to fulfill, in the elevation of our noble profession. Therefore let us each bring our thought—it may be just the *atom* most needed to make perfect the whole.

And now let me call your attention to one thing that I think shows degeneracy, rather than improvement, and most earnestly ask your assistance in a reformation. It is to the modern method of procuring business by *quack advertisements*, a method so derogatory to a true professional standard. Let us one and all *denounce* it, wherever found, whether emanating from young or old; in newspapers or in flaming handbills with *self-assumed* degrees. Let us teach the people that true merit needs no *self-puffing*.

Finally, let us steadily and unitedly work on; ever just and true to our patrons, and we shall be to our profession and *ourselves*. *Jan.* 30*th*, 1866.

WANDERINGS OF PUS.

BY LEON F. HARVEY, M. D.

Pus, that product of inflammation, which the medical man so often desires to see, and uses means to produce, knowing thereby speedy relief and certain cure is sure to follow its production and expulsion; yet, which at other times, he is so anxious to prevent, feeling that when suppuration intervenes, the death of the part or the patient may often ensue, frequently makes curious journeys about the human system. Its tendency for burrowing is very great, making slow but sure progress through a tissue, as water through a small crevice in the earth, with its noiseless but onward movement; it breaks away all barriers, and at last comes to the surface. We are many times puzzled to find the cause of pus exuding from a fistulous opening. No sign of disease about it; no complaint of pain or soreness on touch, but a knowledge that pus often makes its exit, inches and even feet, from the seat of the disease, causes us to look far for the source of the never failing spring. We shall endeavor to show, by attention to marked cases that have come under our own observation, and of others, the necessity of examining the condition of the teeth and the adjacent parts, when fistulous openings are observed near to, or even remote as the clavicle is, from the mouth. Many months of tedious treatment may be averted by examining the teeth and jaws when such a case is brought to our notice. There is a rule which we too often neglect in the treatment of disease, namely, that of cause and effect. We know that disease cannot exist without a cause, but ignoring its presence, the effect claims all our attention. And thus it has been with scores of fistulous openings; failures to find, or even to look, for the cause so often found in a carious tooth, a diseased alveolus or even a small portion of a root. A great deal of this arises from the unwillingness of the physician to recognize the important action which the teeth and their remains have upon the system. They only look upon them as so many grinders, placed in a position to divide the food, as the mill is used to grind the grain, but that duty performed, they exert no influence till again brought into requisition. To be sure they will not dispute the fact that a tooth will ache; yet will laugh at the idea that many of the functions may be deranged by it. The intimate relation between the teeth and the organism can not be too closely studied. The first case which we shall relate as showing the wanderings of pus is as follows: Mr. A. R.——, æt. 30, of a nervous temperament, whose habits were good, consulted us in regard to a swelling on the apex of his chin, from which there was an almost constant dripping of pus upon his shirt bosom, to his great annoyance. He had been troubled in this manner for about three years, but had been unable to find the cause or obtain relief. With a very small flexible silver probe, an exploration was made, and striking the central incisor, supposed that to be the seat of the trouble; but on further exploration, became convinced that the second right bicuspid of the lower jaw gave rise to the discharge. It was perfectly sound and but slightly discolored; but on making an opening through the alveolus to the root, found that it was dead. By keeping that aperture open, the pus passed through it, and, in a few weeks, there was no discharge from the chin. The second is the most marked case, for the pus had traveled a much greater distance.

Miss C. L.——, æt. 25, of a nervous temperament, came to ask our advice about a swelling that had existed for two or three years, upon the left clavicle. It was about the size of a child's fist, and would discharge of itself or upon being opened, a gill of pus. She had consulted many doctors, here and in Canada, mostly quacks, we presume, but they all could give her no aid. Whilst talking with her about the affection, there was noticed a stain upon the neck following the course of the muscles to the swelling, and thinking that the teeth might give rise to the trouble, made an examination of them. Found that the first molar of the left side, lower jaw, had been removed, but the gum over its sockets was red, and sore upon pressure. Believing that roots are never entirely covered with integument, did not think it possible that any could be present here; but on probing, found there were, and, on removing them, the healing of the parts proves that they were the cause of the swelling. In this case we clearly see the importance of a careful examination of the teeth and their sockets. The discharge of pus was very great, and, had not the source of it been found, the patient could not much longer have endured the drain.

Case No. 3 is related at page 326, vol. 6 of the American Journal of Dental Science, Old Series. A girl, æt. 16, was brought to M. Geessant with a fistulous opening in the anterior region of the neck, the consequence of an abscess. On examing the teeth, he found that one of the inferior canine teeth was discolored, and that he could introduce a probe between the tooth and the alveolus: the tooth was removed and the fistula cured without delay.

Case No. 4 may be found at page 184, vol. 8, of the Dental News Letter, related by Jno. J. Watt, Edinburg, Scotland.

A young girl, about 10 years of age, was brought to me in the month of November last, with a fistulous opening of the left cheek, opposite the first permanent molar, from which pus had been discharged several months. On examining the mouth, I found the first left inferior molar with the crown completely decayed, which I extracted, and in the course of two or three weeks the fistulous opening was entirely healed up. A few weeks ago, the same girl was brought back to me, to ask my opinion regarding a discharge of pus from the right ear. On looking into the mouth, I found the first permanent inferior molar of that side very much in the same state of decay as the one on the opposite side, which I had previously extracted; and as I had little doubt of the discharge being caused by the irritation produced by the carious tooth, it was also extracted, and with complete success, as it ceased in two or three days, and there has been no return since.

Case No. 5, the last that I shall cite, is recorded in vol. 11, page 148, of the Dental News Letter.

R. S.——, by occupation a coachman, footman, &c., to an old gentleman; called upon me two years ago to get something done for a sore on the centre of his left cheek. He said it had been a boil which suppurated and broke about two months previously. His face was much swollen, and, as he had to wait at his master's table, it rendered him unfit for his work. The patient had consulted another surgeon, and had tried various remedies, but could not get it healed. He was otherwise the picture of health. I thought it might be some chronic affection of the parotid gland, strumous or otherwise. I gave him some zinc lotion to inject into the opening, and to apply a bit of rag, dipped into the same, and covered with oil silk. In about three weeks he came to tell me that the sore was healed, but his cheek was swollen. I gave him iodine to apply over it. There was an ugly cicatrix where the sore had been. In the course of another month the patient came again, presenting an abscess ready to burst in the old place. I opened it, told him to poultice it a few days, and then use the former treatment. In about three months he called again, and told me that after he last saw me, being useless in his situation, he went home to Edinburgh, where he saw Professor Syme, who gave him something to use, and that the sore did not heal for six weeks after I opened it. The professor told him that the sore arose from a wisdom tooth coming up, for which there was not room in the jaw, and advised him, if the sore did not heal, or should trouble him again, to have the adjacent tooth extracted. His face was now much swollen, and an abscess was evidently forming again. I examined his mouth, and saw that he had got the upper wisdom tooth only, and that there was evidently a want of space for that below. I accordingly extracted the second molar tooth, after which the swelling gradually subsided, and the wisdom tooth filled up the vacant space. He was now permanently cured. We give this last case as an evidence that not only disease, but pressure may afford much trouble, and that we are not to cease observations of the mouth if no decayed or dead teeth are found; but the wisdom teeth, in regard to which we are consulted so often, should not be overlooked in our searchings for the cause of a flow of pus. We could multiply cases, but deem those we have given sufficient to impress upon the minds of all the importance of a thorough examination of everything connected with the mouth, in looking for the fountain head of pus.

Proceedings of Societies.

The eleventh annual meeting of the Michigan Dental Association was held Jan. 30th, 1866, at the Biddle House, in the city of Detroit, and was called to order by the President, Dr. Watling. On motion, adjourned until two o'clock.

Afternoon session—President in the chair—Constitution read by the Secretary.

Drs. Douglas, Benedict and Cahoon were appointed a committee on the order of discussions, who reported the following:

1st. Reading of Essays.

2d. The best means of improving the practice and elevating the profession of Dentistry.

3d. Anæsthetics—Their proper use and relative value.

4th. Extracting teeth—When it should be done and when not; the best instruments for the purpose, and the subsequent treatment when any is required.

5th. Absorption of Alveolar Process — Causes and Treatment.

6th. Filling teeth: The relative value of different materials and the mode of operating in different cases.

7th. The best method of obtaining accurate impressions and models of the mouth.

8th. The relative value of different materials as a base for artificial teeth.

9th. Neuralgia.

10th. Miscellaneous.

The following named gentlemen were ballotted for and elected members of this association, viz: Drs. W. H. Jackson, Ann Arbor; E. S. Holmes, Grand Rapids; Geo. Leary, Adrian; P. R. Hovey, Fentonville; J. C. J. Crooks, Birmingham: C. B. Stodard, Ann Arbor; J. C. Parker, Grand Rapids; Joseph Lathrop, Detroit.

Minutes of last regular meeting read and approved. Dr. Benedict from the committee to prepare a memorial to the regents of the university asking for the establishment of a dental chair in the university, reported that such a memorial had been prepared and presented to the regents. The committee procured the services of Dr. Taft, of Cincinnati, to present the subject to the regents. The latter referred the matter to the medical faculty who reported against the establishment of such a department at present, and the report was adopted by the regents. The report of the committee was adopted and the committee discharged. The association then proceeded to the election of officers for the ensuing year, with the following results:

President, Dr. G. L. Field, Detroit; Vice-President, J. A. Harris, Pontiac; Secretary, G. W. Stone, Albion; Treasurer, H. Benedict, Detroit. Drs. Harris, Cahoon and Bancroft Executive, Examining, and Publishing Committee.

The President elect on being conducted to the chair by Drs. Cahoon and Douglas, made a few appropriate remarks. The retiring President, Dr. Watling, delivered an interesting address, which was referred to the publishing committee.

On motion of Dr. Watling, a committee was appointed to arrange a regular order of business for the association. Drs. Watling and Stone were appointed such committee. The Treasurer submitted his annual report, showing a balance on hand of $48.46, and on motion, the report was adopted. The Secretary presented a bill of expenditures for the year of $8.66, which was ordered paid. On motion of Dr. Benedict, the Secretary was directed to draw an order on the Treasurer of $25 in favor of Dr. Taft for traveling expenses.

Dr. Harris exhibited an automatic mallet, in reference to an offer of a premium for the best mallet, and it was referred to a committee, consisting of Dr. Benedict, Cahoon and Stone. Adjourned to meet to-morrow morning at 9 o'clock.

MORNING SESSION, JAN. 31.

President in the chair — Minutes of last meeting read and approved. On motion of Dr. Benedict, Dr. Taft, of Cincinnati, and Drs. Chesebrough and Harroun, of Toledo, were elected honorary members of this association. A communication was received from Dr. C. B. Porter, of Ann Arbor, saying that he had retired from the practice of dentistry, and wished to resign his position as member of the association. On motion, his resignation was accepted, and his name placed on the list of honorary members. Dr. Watling offered the following resolution:

Resolved, that it be deemed derogatory to the best interest of the profession for any of its members to take students for a less term than three years, and under no circumstances, unless he pledge himself to attend two terms in some regular dental college.

After remarks from Dr. Bancroft, Taft, Douglas, Watling and Chesebrough, it was unanimously adopted.

Also the following was offered by Dr. Watling, which was unanimously adopted:

Resolved, that any person entering the profession after this date, shall not be eligible to membership in this association until he has graduated from some regular dental college. On motion of Dr. Warner, both of the above resolutions were incorporated in the by-laws of the association.

Dr. Harris presented a little girl with a supernumery tooth, and asked the opinion of the association in regard to extracting.

On motion of Dr. Warner, a committee consisting of Drs. Benedict and White was appointed to arrange for clinical operations.

Dr. Harris offered the following resolution, and on motion it was adopted:

Resolved, that the officers of this association and as many members thereof as may be necessary, be a committee to obtain a charter for and incorporate this association.

The compliments of Mr. Fred. Stearns were received by the association inviting the members to his house this (Wednesday) evening, and, on motion, the invitation was accepted.

Dr. Harroun, of Toledo, said he was commissioned, by the dental association of Northern Ohio, to send greeting to this association. The President responded in fitting terms. On motion of Dr. Knowlton, of Detroit, the Northern Ohio Dental Association, and all other similar bodies in Ohio, were invited to meet with this association at its next annual session, either by delegation or otherwise.

Dr. Holmes, of Grand Rapids, presented the following, and on motion it was adopted:

Resolved, that a committee of three be appointed to take into consideration the propriety of adopting a standard of elegibility to membership in this association, and to report the result of their deliberations at this meeting. The chair appointed Drs. Holmes, Benedict and Watling such committee. Dr. Chesebrough read a paper on the "Duty of the Dental Profession," showing clearly the great responsibility of the dentist to his patrons.

Adjourned until two o'clock.

AFTERNOON SESSION.

Dr. G. B. Snow, of Buffalo, was elected an honorary member of this association.

On motion, the paper read by Dr. Chesebrough was ordered to be printed.

The committee appointed to arrange an order of business for this association reported the following:

1. Reading the Constitution.
2. Admission of new Members.
3. Reading the minutes of previous meetings.
4. Report of Officers and Standing Committees.
5. Election of Officers.
6. Installation of Officers.
7. Retiring President's Address.
8. Miscellaneous Business.

On motion, the report was adopted and ordered incorporated in the by-laws of the association.

Dr. Chesebrough exhibited some fine specimens of fœtal development. Dr. Robinson, of Jackson, read a paper entitled "Little Things," which was received with much favor. Also one by Dr. Douglass, both of which were referred to the publishing committee.

Dr. Benedict read a paper containing a summary of his work for eighteen months, and gave some incidents of preserving teeth after they were badly decayed and nerve dead; the paper was referred to the publishing committee.

Dr. Field read a paper treating of "Dental Societies and their influence," which was received with much applause and referred to the publishing committee.

Dr. Taft being obliged to leave soon, Dr. Robinson requested him to give his treatment for the cure of alveolar abscess where it discharged down the fang of the tooth. Dr. Taft said that the treatment would be modified to a very great extent, by the condition of the health of the patient. The first thing to be done is to remove the cause of irritation; and then reach the point of disease through the most feasible channel. Open up through the fang of the tooth; clear out the canal; see that no foreign substance is lodged there, in other cases trepanning or cutting through the process to the apex, removing all the dead bone and treating the system with alteratives and tonics. Several other members spoke upon the subject, refering to patients under their charge, whom they treated in a manner similar to that recommended by Dr. Taft.

Adjourned until to morrow morning at 9 o'clock.

MORNING SESSION, FEB. 1ST.

Minutes read and approved. Committee on qualifications for membership submitted the following qualifications necessary to become a member of the association:

1. Good moral character—evidence to be presented by two reputable persons.

2. Honorable, manly, and friendly feelings and conduct towards the members of the profession.

3. A determination to practice dentistry as an art founded upon science, or as a liberal profession.

4. Must be considered a reputable practitioner of dental surgery by the members of the profession who are acquainted with him.

5. Must be a graduate of a dental college or a graduate of a medical college, and, for at least one year, a regular practitioner of dentistry; or if not a graduate, must have been a respectable practitioner of dentistry for at least six years. and if the candidate commence practice after this date, he must invariably be a graduate of a dental college.

On motion, the report was adopted.

The subject of anæsthetics was then taken up, and discussed in regard to their proper use and relative value.

Dr. Lathrop spoke in favor of nitrous oxide; would not give it when the heart is diseased; had used it over two years, during which time had administered it to from 6 to 8 hundred patients; never saw any injurious effects from the use of it; gave 36 gallons at one time to a lady without any bad symptoms; produces perfect anæsthesia.

Dr. Field—Prefers chloroform to any other agent; had tried nitrous oxide and found no particular objection to it; thinks the bad effect would be *felt* immediately, if ever; thinks the bad effect of chloroform is from the impurity of the article used; is now using a pure article prepared by Dr. Duffield, of Detroit, without producing nausea or debility; gives it on an empty stomach; enforces on the mind of his patients the necessity of obeying him in every particular during the operation.

Dr. Cahoon—Likes the use of nitrous oxide on account of its safety, but does not use it as it is too troublesome and expensive.

Dr. Knowlton—Likes nitrous oxide better than any other agent; thinks it is perfectly safe.

Dr. Farmer—Thinks nitrous oxide no safer than chloroform; prefers the latter.

The subject of extracting teeth was next taken up.

The Secretary believed the tendency among the dental profession was to save too many teeth that should, in view of the health of the patient, be removed. He would guard against riding a hobby, either on one side or another, and said to allow certain teeth to remain was detrimental to the health of the patient.

Dr. Cahoon—Would save as many natural teeth as possible, and would not extract any if the patient would submit to have them filled.

Dr. Holmes coincided with Dr. Cahoon. Many members participated in the discussion, arguing generally in favor of saving all the natural teeth.

Adjourned until two o'clock.

AFTERNOON SESSION.

A great portion of the afternoon was occupied in clinical operations, after which the association discussed the question of filling teeth, and the relative value of the various materials used. On motion, it was resolved to hold the next annual meeting of the association at Adrian. On motion of Dr. Watling, the executive committe was instructed to arrange an order for discussion for the next annual meeting, and send it to the Secretary, who is instructed to have it printed on the circulars of invitation.

Adjourned to meet again at 7 o'clock in the evening.

EVENING SESSION.

Committee on automatic mallet excused from reporting till the next meeting. Drs. Bancroft, Holmes, White, Field, Warner, W. H. Jackson and Farmer were elected delegates to the American Dental Association, to be held at Boston in July next.

Dr. Stodard, of Ann Arbor, being elected in violation of constitution, a motion was made to return him the fee, and inform him of the illegality of the proceedings, which motion was laid on the table until the next annual meeting of the association.

Dr. Farmer asked for some views upon the use of chromic acid, upon which Dr. Field stated that he used it with great success. He had a patient who could not bear the least touch of the instrument upon a tooth, and he procured some chromic acid and used it, by way of experiment, after which he excavated freely without producing the least pain to the patient; said he would not do without it.

Dr. Snow had used it several times, but was not satisfied with the result; thought it produced as much pain as chloride of zinc. Dr. Holmes had used chromic acid a few times; was pleased with the result, although it produced severe pain for a few moments, afterwards the tooth could be excavated without hurting the patient; is afraid that it injures the tooth, but thus far has seen no bad effect.

On motion of Dr. Benedict, a committee of three was appointed to memorialize the regents of the university for the establishment of a dental chair in the university. The association appointed Drs. Benedict, Stone and Field as such committee.

Dr. Holmes addressed the association on the subject of dental literature, and urged the neceessity of subscribing for and reading as many dental periodicals as possible. On motion, Mr. Fred. Stearns was elected an honorary member of the association. A vote of thanks was tendered to Mr. A. F. Tablor for the gratuitous use of a room in the Biddle House, in which the sessions of the association were held. Also to the press for the publication of the proceedings of the association. The remainder of the session was spent in a jovial, friendly discussion of various subjects connected with the profession. On motion, adjourned to meet at Adrian on the 4th Tuesday in January, 1867.

G. W. STONE, Cor. and Rec. Sec'y.

Editorial.

STUFFING TEETH.

We have within the past few months witnessed a large number of cases, in which operations upon the teeth, have been performed for arresting decay, commonly denominated filling, but in reality being nothing more than mere stuffing, incapable of excluding the fluids of the mouth and in many cases food.

We have been annoyed so much recently, by cases of this kind, coming from the hands of those, claiming to be first class dentists that we have determined to speak our mind on the subject; and we have also decided that in future, if there is not some improvement in this respect, one shall hint more definietly, than we now intend to do.

The following case will illustrate what we mean. To day a lady called, for treatment of her teeth for decay. Her teeth constitutionally good, and in good condition for successful operations at least so far as new decays are concerned. Her health was good, and she in all respects an admirable patient, for most successful operations upon her teeth, and in affluent circumstances. A year and a half ago, she called upon Dr.——— whom she was led to suppose by his assumption, and even by his general reputation, to be a thorough and successful operator; he filled or rather stuffed seven teeth, five with gold, and two with amalgam, none of the fillings, not even the amalgam, large, nearly all of them at points easy of access. Through every one of these gold fillings, an ordinary excavator would pass with a very moderate pressure, and the teeth decaying more or less about them all ; so that the cavities were from a third to a half larger then when filled. On the masticating surface of a superior molar, in the anterior depression, was a gold stuffing ; in a cavity in the posterior depression was an amalgam filling in contact with the gold, beneath a little bridge of enamel ; an excavator would pass down readily round both these fillings.

At first the lady avered she had no amalgam fillings in her teeth for Dr.——— would not put amalgam in her teeth, and was astonished when convinced by actual view ; she was but little less astonished when she saw the condition of the gold fillings, and the extent of the decay about them ; she indignatly remarked, take those things out, and fill my teeth as they should be. Now how stood the matter here ? this lady supposed these teeth that had been filled were secure, and, but for a timely examination would have remained under that impression till they would have been destroyed.

In this case, as in many others that have fallen under our observation there was no excuse for this state of things, except the professional imbecility, or, depravity of the operator, the former we are inclined to believe more than the latter, for so far as the patient was concerned, there was every incentive to perform the best operations possible, and yet at the hands of this man, a poor miserable abortion was the result. We have become so annoyed, and so heart-sick with this kind of practice, that we are determined to probe it, till there is some improvement. Operations of this kind from the hands of those who make little pretentions, and are confessedly deficient in ability, do not involve a tithe of the danger accruing from such a case as we have given.

The man who assumes to be what he is not, and establishes a popular reputation, and thereby places the teeth of his patients in the sure road to ruin, and lulls them in security till that ruin is effected should receive the contempt of the profession and the scorn of the people.

OHIO DENTAL COLLEGE ASSOCIATION.

This association met on the the 20th of February with a very full representation of its membership.

Much important business was transacted, for a detailed account of which, see minutes published in the Register. The most lively interest was manifested by the association, and the prosperity of the school seemed to infuse new zeal into the members, so that they pledged far more effort for the future, than has ever been put forth in the past, and we doubt not the pledges will be fully redeemed. Among the more important operations of the society, was the election under the amended charter, of a new board of Trustees.

According to the charter, they must all be members of the association; and they are all active members of the profession, and men too, having the good of the profession, and especially this Institution most earnestly at heart. The members of the former board were nearly all outside of the profession, and could not be expected to have the same lively interest in its welfare, as those engaged in its active duties; but notwithstanding that such was their position, the profession owes them a debt of gratitude that will forever remain unpaid except in good wishes and kind remembrances.

They bore the College through difficulties and trials, that in the hands of a less energetic Board, would have involved it in ruin. Let us then with never failing gratitude remember our retiring Board of Trustees.

The new Board, consists of the following persons, viz: Dr. James Taylor, Cincinnati Prest. H. A. Smith, Cincinnati, Sect. Dr. A. Berry, Cincinati. Dr. B. D. Wheeler, Cincinnati. Dr. W. W. Allport, Chicago Ill. Dr. H. J. McKellops, St. Louis, Mo. Dr. Geo. W. Keely, Oxford, O. Dr. W. H. Margan Nashville, Tenn. Dr. A. S. Talbert, Lexington, Ky. They immediately organized and went to work arranging such plans and details as will tend greatly to the prosperity of the school. The association appointed Committies at various places throughout the West, to receive any contributions that may be made to the College in any form, such as specimens of any kind that may serve as illustrations, chemical apparatus, appliances and fixtures for the practical departments; *or material aid.* The Committees are as follows,

Dr. A Berry, of Cincinnati, Chairman.
" W. H. Morgan, of Nashville, Tenn.
" G. W. Redman, of Louisville Ky.
" A. S. Talbert, of Lexington, Ky.
" M. DeCamp, of Mansfield, Ohio.
" J. B. Dunlevy, of Pittsburg Pa.
" H. J. McKellops. St. Louis, Mo.
" A. M. Leslie, " "
" Geo. H. Cushing, Chicago Ill.
" A. A. Blount, Springfield, Ohio.
" P. G. C. Hunt, Indianapolis, Ind.
" W. P. Horton, Cleveland, O.

These will all doubtless respond most fully to the expectations of the association in the performance of the work assigned to their charge.

MICHIGAN DENTAL ASSOCIATION.

This society met in Detroit on Tuesday the 30th of January.

Quite a large number of the profession in the State was in attendance. All exhibited a lively interest in the society, each taking part in the proceedings. There where a number of good papers read, some of which with the proceedings will be found in this number of the Register.

The propriety and advantages of securing an act of incorporation was discussed, and it was finaly resolved to become an incorporated body. A committee was appointed for that purpose, with instructions to proceed at once to its accomplishment.

We think it would be quite advantageous and appropriate for all of our more important professional societies to avail themselves of the privileges accruing to incorporated bodies.

The establishment of a dental college in the state of Michigan, is receiving a large share of attention, and consideration by the profession of that state, and we doubt not that something worthy of their noble effort, will ere long be accomplished.

This society consists of true and good men, who will carry forward to a successful result, every enterprise in which they may engage.

COMMENCEMENT EXERCISES.

The Commencement of the Ohio College of Dental Surgery took place, in the College on the evening of the 21st of Feb. The lecture room was filled to overflowing; an extempore address was delivered by the President of the Board of Trustees, in which he gave much good counsel and practical advice upon professional matters, especially to those about to enter upon its duties. He then conferred the degree of D. D. S. upon the following named gentlemen, viz. P. J. Collins, W. H. Pabodie, M. Stout, Miss L. B. Hobbs, D. A. Wilder, H. Newington, C. C. Chittenden, W. H. Woodward, A. E. Lyman, Geo. L. Shepard, J. Nelson, R. C. Morgan, G. W. DeCamp, J. P. Holmes, Geo. P. Ketchum, F. C. Eddelman, N. B. Stump, R. A. Alloway.

Each of whom had sustained a rigid examination. After the degrees were confered and the bibles presented—one to each member of the class—Prof. Spalding delivered a very excellent address, (which we shall present in the pages of the Register) which was responded to most beautifully, and impressively by Dr. W. H. Pabodie on behalf of the graduating class. The exercises were interspersed with most soul stiring music by Menter's celebrated Band. Thus closed the most interesting session, with the largest class, ever held in this institution.

MISSISSIPPI VALLEY DENTAL ASSOCIATION.

The 21st annual meeting of this association was held on the 21st, 22nd and 23rd of February. It was by far the largest, and we think in some respects the most interesting and enthusiastic meeting of this society. There was a much larger number of the profession present than ever before, and a very large increase of membership was the result.

The discussions were regarded as highly instructive, they were fully reported, and will be published in the next number of the Register. Several prizes were offered for essays improvements &c. for which see official minutes which will be published.

This society retains its youthful vigor, and will not soon be superceeded by any thing else. It has passed through some severe struggles, and these are some of the things, that make it dear to those who where wont to meet in years by-gone in its councils, and for the future we feel well assured, that when the time for its annual convocation arrives, there will still greater numbers come up for concourse and mutual benefit. We hope to see the profession take hold of the subjects for which prizes are offered, and bring forth something which shall richly merit the award.

JOURNALISTIC.

We have before us the first number of the Medical Reporter, a semi-monthly record of medicine and surgery, edited by Drs. J. S. B. Alleyne, and C. F. Potter, St. Louis Mo. The salutatory says, "The pages of the Reporter, will be devoted to original and selected articles, to Correspondence, Domestic and Foreign ; to the Department of Dentistry, and the Collateral sciences, &c."

This is a neatly gotten up Journal, and we feel well assured will be ably conducted. The character of its Editors is such as to preclude any other conclusion. Long may it prosper.

HYMENIAL.

Married on Wednesday the 28th of February ult., Dr. W. .H Shadoan, of Louisville, Ky. to Miss Lucy M. Sabine, of Cincinnati.

This is a subject in which it is rather difficult to introduce much about the teeth, this must be our apology for the brevity of this notice ; it is rather out of our line, at least it is not our forte. Yet we must express our ardent wishes for the perpetuity of the connubial happiness that now pervades the bosoms of the blissful pair.

THE DENTAL REGISTER.

Vol. XX.] APRIL 1866. [No. 4.

Original Communications.

DENTAL MATERIA MEDICA.

BY GEO. WATT.

Iodine, I = 126.

Most of the iodine of commerce is obtained from the kelp of the west coast of Ireland, and the northern shores of Scotland. The kelp is obtained by burning sea-weeds, and is principally used by soap makers, on account of the carbonate of soda which it contains. The lye which remains, after the carbonate is removed by crystallization, contains considerable quantities of iodine, in the form of iodide of sodium.

Preparation.—The iodine lye, above described, is placed in a leaden still, and sulphuric acid is added to it. Sulphurous, hydro-sulphuric, and carbonic acids are evolved as gases; and sulphur is precipitated. It is then gently heated to 140°, and binoxyd of manganese is added. Iodine is evolved as a vapor, and is condensed in a series of spherical, double-mouthed, glass condensers. Those familiar with chemical notation, will understand the reactions of the process, by the following equation:

$$NaI+MnO_2+2SO_3=NaO,SO_3+MnO,SO^3+I.$$

Properties.—Iodine is an elementary body, and, at ordinary temperatures, a crystalline solid. It is usually obtained in friable scales, of a grayish-black color, resembling micaceous iron ore. Though not a metal, it has a metallic lustre. It has an unpleasant acrid taste, and an odor something like chlorine, but less suffocating. Its melting point is 225°, and it volatilizes at 347°. Placed in boiling water, its vapor is given off with that of the water. Its vapor has a beautiful violet color, and is remarkable for its great specific gravity, being nearly nine times as heavy as atmospheric air. Iodine is readily soluble in alcohol and ether, and also in solutions of the iodides, but requires 7000 times its weight of water to dissolve it.

Characteristics.—Iodine may be generally recognized by the violet color of its vapor. This may be readily observed by dropping the iodine on a hot brick. It forms a blue compound with starch. Starch is a very delicate test for iodine; but the iodine must be free, and the mixture cold. When the iodine is combined, as with potassium or sodium, a little nitric acid should be added, to take the base, and the blue color will at once be developed by the addition of the starch solution.

Physiological Effects.—Iodine acts mainly, if not solely, by virtue of its chemical affinities. Locally, it is an irritant—almost an escharotic. It stains the cuticle a dark yellow, and causes redness and desquamation. Its affinities are nearly analogous to those of chlorine, but are less energetic. It is said to act as an *alterative*, a *liquefacient*, or *resolvent*; but these are only convenient terms by which to express our ignorance.

Modus Operandi.—Whether used externally or internally, iodine is readily absorbed. It may be found in the blood, sweat, urine, milk, saliva, and mucous secretions. Dr. Cogswell found it in the urine of a dog, five days after ceasing its administration. Cantu says it is never found free in the blood or secretions, but always as an iodide, or hydriodate, from which he infers that its action on the body is chemical. When absorbed in a free state, it is natural to infer, that there will be constitutional disturbance, as, by its affinity, it manifests its irritant action till it is neutralized by combination, that is, till it becomes an iodide. Hence, when its constitutional action, and not its local, is desired, it is more in accordance with chemical philosophy to use an iodide rather than free iodine. When taken into the circulation, iodine appears to produce, as Müller observes, "such an alteration in the composition of the tissues, that the affinities already existing are annulled, and new ones induced, so as to enable the vital principle—the power which determines the constant reproduction of all parts, in conformity with the original type of the individual—to effect the further restoration and cure."

Uses.—Iodine may be useful to the dentist in the local treatment of chronic inflammation, or induration of the salivary glands, in dental periostitis, in alveolar abscess, in some morbid states of the antrum, in thickening of the mucous membrane, in tumors of the mouth, and in absorption of the gums and alveolar processes. The officinal tincture will answer very well for periostitis, thickening of membrane, and sometimes for abscess. For chronic catarrh, or inflammation of the lining membrane of the antrum, the compound tincture, very much diluted, is a good injection. For destroying the sac in alveolar abscess, a solution of iodine in creosote is a sovereign agent; and when not too concentrated, the same is an admirable application to the margins of the gums and alveolar processes, after the removal of all irritating and dead substances; but care must be taken that it is not applied too frequently. It is an escharotic; and, as a general rule, it is well to let the slough separate before a second application; and, frequently, milder preparations of iodine should follow the first application. To use externally, I prefer a colorless tincture of iodine, prepared by combining equal quantities of compound tincture of iodine and pure aqua ammonia. As combination takes place, the mixture becomes transparent, and will not then color the skin.

I do not think of any condition which will require the dentist to prescribe *iodine* internally. When its constitutional action is indicated, as in scrofulous or syphilitic diseases of the mouth, he will derive more benefit from the use of iodide of potassium.

IODIDE OF POTASSIUM, $KI=165$.

This salt, as its name imports, is composed of one equivalent of iodine and one of potassium. The equivalent of the former is 126, that of the latter, 39. Hence the salt contains 76.4 per cent of iodine, and 23.6 per cent of potassium.

PREPARATION.—The dentist will find it more convenient to buy than to prepare the salt. Iodine, iron, carbonate of potassa, and water, are used in its preparation. For the relative quantities and manipulations, the reader is referred to the United States Dispensatory. The iodine combines with the iron, and the iodide of iron, thus formed, decomposes the carbonate of potash, forming the carbonate of iron and the salt under consideration. The reactions are represented by the following equation:

$$FeI+KO,CO_2=FeO,CO_2+KI.$$

PROPERTIES.—Iodide of potassium is a white, shining, semitransparent, inodorous salt, having an acrid taste. It melts at a red heat, and is vaporized at high temperatures, without decomposition. It is readily soluble in alcohol and water, requiring for its solution, but two thirds of its weight of water, at 60°. It contains no water of crystallization.

IMPURITIES.—A reliable article can always be obtained from responsible apothecaries; but it is often adulterated. It is more likely to contain carbonate of potash than any other salt. This may be detected by its action on lime water. The pure salt produces no visible change; but if the carbonate is present, the lime water is rendered turbid, or milky, by the formation of carbonate of lime. Again, the iodide is soluble in alcohol, and the carbonate is not.

Physiological Effects, and Modus Operandi.—Locally, this salt is an irritant, but is not nearly so energetic in its action as free iodine. On this account it may be given, internally, in larger doses, and for a longer period, than iodine. Indeed, iodine can be introduced into the system much faster by the use of the iodide, than when given uncombined. A solution of albumen, fibrin, or gelatin, is not obviously changed by the addition of this salt; and as these are the most abundant organic constituents of the body, we may infer that the chemical action of the iodide, on the living tissues, is but slight.

To obtain a clear view of the action of this salt, as a remedial agent, it is necessary to bear in mind its peculiar properties. It is very soluble, and is, therefore, readily absorbed. It passes rapidly into the circulation. and may be detected in all the tissues and secretions. It is composed of two elements, both of which are characterized by strong affinities, some of them stronger than that by which they are held together. If the salt is decomposed, the potassium takes oxygen, and becomes potash, which is a general solvent of animal tissues. At the same time, the iodine is set free, and is thus able to exert its affinities. And as all chemical agents are peculiarly active in the nascent condition, the iodine and potash are both more energetic, than if carried, in their free state, to the point of action. Each one, as it were, holds the other quiet till the proper point is reached, and then lets it go to accomplish its work. Each element, by neutralizing the other, prevents its local, *irritant* action; and each is liberated, atom by atom, in obedience to stronger affinities, each particle being promptly saturated by the gratification of the affinity which liberates it. And this explains how it is, that such large doses of this salt can be taken for a long time, without local or constitutional disturbance.

The affinities of iodine and potassa, are sufficient to account for all the phenomena observed in the remedial action of the salt. Highly soluble compounds are the natural results; and these are as naturally carried out by the various excretories. Let us suppose that the iodide is administered for the arrest or removal of morbid growths, or to relieve tertiary syphilis. The latter is often spoken of as a disease of the bones. But does that expression convey the whole truth? Is there not a disease of the formative fluids, from which bony tissue is deposited? Now, if these morbid particles are arrested by the affinities of the elements of the salt, held in solution, and carried out through the various secretions, it is evident they will not further build up the morbid development. And as the particles of morbid structures, like those of normal tissues, perform their functions and pass away, unless new ones are furnished in their places, the abnormal solid is carried off, little by little. The diseased growth is literally starved to death, and carried out by the scavengers of the system. It is this action of the remedy, which has induced some writers to call it a *resolvent*, or *liquefacient*.

In some of the above remarks, I have sacrificed technicality, to a desire to be understood by beginners, and those whose opportunities have not been such as they desired. They are not written for the critic, though, of course, he may use his pleasure in regard to them.

USES.—Whenever the dentist has to treat a diseased condition, that calls for the constitutional action of iodine, he will do better to use iodide of potassium. He will need it in treating chronic, non malignant diseases of the antrum. It seems to exert a special influence on the nasal mucous membrane. Pereira has observed that the pocket-handkerchiefs of those using this salt, "acquire a distinct odor of iodine."

In absorption of the alveolar processes, especially when accompanied with subacute, or chronic periostitis, its use is indicated. And in all cases, when the mouth gives evidence of syphilitic or scrofulous disease, it is well to administer it. As a local application, it is not so useful as free iodine.

ADMINISTRATION.—It should be given in solution, and usually immediately after eating. It may be taken in sweetened water, or almost any way the patient may fancy. The average dose is from 4 to 10 grains. Many use much larger doses, but I have not found it profitable to do so. For an adult, I frequently prescribe a solution of a dram of the salt to an ounce of water, and direct the patient to take a teaspoonful three times a day.

VALEDICTORY ADDRESS.

BY PROF. C. W. SPALDING.

[Delivered to the Graduating Class of the Ohio College of Dental Surgery, Feb 21st, 1866.]

Gentlemen Graduates:—The time has arrived when you are about to leave this Institution, to engage in the active and responsible duties of professional life. Having completed the required course of study, preparatory to assuming these important duties; and having passed a thorough and searching though satisfactory examination, you now hold in your hands, as you are entitled to, the evidences of a successful pupilage; and are prepared to change your relations to your late instructors, and to take your places in society as professional men.

Speaking, as I do, to-night, in behalf of my associates, as well as myself, I extend to each of you a hearty welcome, and cordially receive you into the ranks of our professional brotherhood. The board of gentlemen who hold in trust the interests and the authority of this institution, has conferred upon each of you the title of Doctor of Dental Surgery.

This, gentlemen, is no meaningless title—conferred as a mere mark of favor or respect—but it is a well-earned passport to the confidence of the public, and *our* guarantee that you possess the qualifications necessary to the beginning of your professional career.

The term, Doctor, literally signifies one who teaches; and it was formerly applied to those only, who were so well versed in some particular art or profession, as to be qualified to teach it to others. In Law and Divinity, it still retains much of its original meaning; but in Medicine and Surgery, both general and special, the term is accepted and employed in its more modern sense, and implies one who is qualified to practice in any department of the healing art.

The conferring of this degree, therefore, invests you with all the rights and privileges which belong to any other possessor of a similar title.

In terminating, as we do with these exercises, our relations to you as teachers, the Faculty of the Institution has imposed on me the pleasing duty of addressing to you a few words of parting counsel and advice.

In terminating these *relations*, however, we do not wish you to regard—either our interest in your welfare, our earnest desire for your success in your new vocation, or our sincere wish that you may continue to pursue the course of study you have so auspiciously begun—as having, in *any* sense terminated. But, though you may disperse in various, and even opposite directions, our eyes will follow you all; and go where you will, you will always be accompanied by our best wishes for your success, and our anxious solicitude for your welfare; and while we bid you "God speed" in your journey over the laborious path of a professional life, our watchful care will ever follow you; and we shall look, with earnest yearning, for those manifestations of professional progress, which come only as the result of self-sacrificing toil. Wholly disinterested labor, however, must not be expected of any one in the daily pursuits of life. Necessity compels us to labor for ourselves, as well as for others; but fortunately, and I believe providentially, society is so organized and constituted, that men are forced to perform uses to others, whether they will or not, that they may themselves reap the highest reward of their own efforts.

The highest mark a man may set before himself, is the performance of a life of use—use to himself, and to those dependent on him; and use to his fellow-man, and thus to society. Let us, then, cheerfully co-operate with this law, so imperative in its demands upon us. It is a spark of heavenly life, infused into the condition of earthly success. It is one of those providences of God, in which the doing of good to others, is made co-incident with the performance of the duties of our daily occupation.

Nearly allied to this law, is the law of compensation. Sooner or later, man reaps the reward of all his acts. The violation of a moral or spiritual law, brings its inevitable consequences; it may be more slowly, but not less surely, than does the violation of a physical or natural law. The laws of life are universal, differing only in degree; hence the penalty of violation accords with the nature of the offense. How important is it, then, that men should always pursue the right! There is no maxim given for the guidance of man, to which he can more safely trust, than that golden one, of "doing unto others as he would that others should do to him." Make this, therefore, the rule of your professional lives. In all you do, let this maxim be your constant guide. If you are about to render any professional service, or if you have performed any professional act, ask yourselves this question, "am I acting, or have I done this in accordance with the requirements of this golden rule?" If you have not, then lose no time in retracing your steps; and, with unyielding determination, bring all up to the standard which this law exacts. In this is your safety. In this direction lies the path which will lead you to success.

In many of the operations which you will be called on to perform, different modes of procedure will present themselves for your consideration. That which your judgment will indicate as the best, may not, to you, be either the easiest or the most profitable. Let none of these considerations, however, swerve you a hair's breadth from the straight-forward path of duty. Whatever you do, do it according to the best of your ability. Let your efforts be directed, rather to improve the quality, than to increase the number of your operations. Operate well, rather than much; and do not make haste to acquire an extensive practice; progress more slow is more sure; too sudden prosperity is not the most useful. Strive, therefore, to do everything, even the smallest and the least important, in the *best possible* manner. So will you win your way to favor, with your patrons; and an ample field will soon open itself before you.

There are, also, other minor considerations, which go far in influencing persons in the choice of a dentist. Among them I may name, age, dress, deportment, the location and fittings of an office, and, quite as important as any I have mentioned, is cleanliness, absolute, scrupulous cleanliness of person and of premises. No man, who disregards this latter, can ever expect to acquire, or to retain a respectable practice. The highest attainments, and the most artistic skill, will be likely to go unrewarded, if the individual lacks this essential quality. The instruments you employ, should always be scrupulously clean, and kept well polished. A set of plain ones, kept in such condition, will be far more pleasing to your patients, than those of the most elaborate and expensive kind, kept in a slovenly or negligent manner. Your own dental organs should also serve as an example, and a type of that care and cleanliness which are so necessary for their proper preservation. Punctuality in keeping your appointments, is another important element of success; for you may be assured, that for any want of punctuality on your part, your patients will abate their own. Be always, therefore, at your post; and, if one who has tried it may advise you, do not engage in politics, nor in any pursuit not directly connected with the practice of your profession. These things will be certain to distract your attention, and will be attended with loss, in both reputation and patronage. The study and practice of dentistry, are quite sufficient to occupy your time and attention; and will leave you no leisure to devote to other topics, or to other pursuits.

Your duty, therefore, is plain. Go straight on towards the high mark of excellence which you have set before yourselves, turning neither to the right hand nor to the left. In all things be guided by principle. Discharge your duty manfully, earnestly, courageously, *conscientiously*, and all duly needful will be added unto you.

In closing the period which you have devoted entirely to study and preparation, do not imagine that the change involves the substitution of practitioner for student; the former is merely added to the latter, and if, thereafter, you reach that degree of eminence, which is in store for those who labor for its attainment, you are to do so by combining the duties of both. He who neglects study, does not even retain that which he has already acquired; while he who would keep pace with the rapid advancement which is taking place in dental art and science, must avail himself of all the helps that lie within his reach.

Cultivate, therefore, habits of study, persevering, untiring study. It is a ready means of holding converse with the learned. Who would not esteem it a great privilege to enjoy the benefit of a daily talk with some eminently scientific man? In his works, you may obtain the result of his life's labor, and research, and thought. Devote, therefore, a part of each day to the reading of such authors, and never consider the daily task accomplished, till you have had your hour of talk with your learned friends. A single hour, set apart each day, (omitting, of course, the Sabbath), would give over 300 hours in the year. Taking eight hours as a full day's study, nearly 40 full days in every year would be given to the work of improving the mind. The pleasures of social life, public and private recreations, are all proper in their places, and should be moderately engaged in. Let not the allurements of society, however, withdraw you from your purpose. Subordinate such pleasures to the more important claims which the interests of your profession have upon your time.

Let your college text books, and standard dental works, become "as familiar to you as household words." Read, also, the periodical literature of your profession, which comes to you at stated times, as a reminder and a help to you in your work; and, especially also that of medicine, and, I may add, that of the collateral sciences. In this way, gentlemen, you will lay broad and deep the foundation of your professional edifice. With a sure foundation to rest upon, the superstructure will be easily and rapidly built up.

In this connection, I cannot too strongly urge upon you the study of special cases. Whenever, in your practice, a case presents itself, which you do not fully comprehend, let your study of all its peculiarities be so completely exhaustive of the subject, that you leave nothing unlearned, concerning it, which can be obtained from books. The knowledge acquired by this method of study, becomes more indelibly fixed in the mind, than that obtained by more general reading; and having mastered this case, you will always confidently attempt the management of any similar one that may fall into your hands.

There is another custom which I would recommend to you as deserving of your attention, and that is, the practice of committing your thoughts to paper. Thoughts are evanescent things, and, unless they make an unusual impression on the mind, are apt to pass away and be forgotten. If, however, they are once written, if we once ultimate them in characters at our fingers ends, they acquire a lodgment in our memories, which they do not acquire in any other way.

If we merely contemplate and reflect upon an act. it never becomes so real as it does when the act itself is performed. So our thoughts acquire a fixity by being spoken, and a still greater one by being written, which they never would have done, had they remained in the mind merely as thoughts. I know an individual who has frequently kept paper and pencil lying upon his instrument table, and, at short intervals occuring in his operations, would turn to his paper, and there record a passing thought or two, which were afterwards valuable to him, and which would otherwise have passed away, and could not, probably, have been recalled. It is, therefore, for your own advantage that this practice is recommended; yet, in the future, we may hope that it will become advantageous to others, that you should have cultivated the habit of preserving your thoughts in this permanent and convenient form.

A prominent feature which marks the progressive spirit of the age, is the division of medicine into specialties. Indeed this condition may now be said to have become an established necessity. This division of labor has long been recognized as necessary, in all the departments of industrial life; and, having established itself in this basal stratum of society, it is now claiming increased attention at the hands of professional men. In no pursuit can it be more advantageously extended than in that of medicine. The treatment of diseases of the eye and ear, serves as an example, as well as those of the teeth. The dividing the treatment of the diseases of these organs into specialties, each having its separate set of practitioners, who devote their thoughts and their energies to the development of their particular branch, and many of whom have pursued a course of study designed to fit them for their peculiar duties, has resulted in bringing to light the true character of many diseases, the causes and nature of which were not previously at all, or but very imperfectly, understood.

The complex, and far too manifold duties of the old time physician, has so far given place to this separation into specialties. This work must go on; and it will more and more increase, in proportion as the practitioner in each department shall, by a careful and thorough study and investigation of his particular allotment, exhibit to the world, and to the medical fraternity, a higher degree of professional skill than has heretofore been attainable by the general practitioner.

And now, gentlemen, a few words touching the commencement of your professional career: This is *your* commencement; from this time you are to date the beginning of your professional lives. In entering upon the untried duties of your new vocation, you must expect to encounter many difficulties, and to meet with many discouraging circumstances. Do not allow these, however, to shake your purpose, or for a single moment to turn you aside Such is the common lot of all, and such experiences are often necessary to develope the hidden energies that lie dormant within the man.

In introducing yourselves into new localities, you must resort to some means of informing the public that your services can be obtained. An advertisement, announcing your name, occupation, and location; and, subsequently, a standing newspaper card, are all proper and right, as a means of attracting attention where you are unknown. Avoid, however, all ostentatious display, either in signs about your door-way, or in newspaper advertising. Neither offend your fellow-practitioners, nor debase yourselves, by claiming to possess *peculiar* merits, which entitle you, above others, to the confidence and patronage of the public. Let your works give you publicity; and rise, rather upon your own merits, than by a resort to what are called "the tricks of trade."

If you pursue the course I have here imperfectly sketched, you will become an ornament to your profession, and an honor to the institution, to whose interests, I am sure, you are far from being indifferent. If you would realize the hopes which these remarks are intended to excite, you must steadily exercise those trying, but sterling virtues, patience and perseverance. You must work your way, by slow, but certain steps. There is no royal road to eminence, in any walk of life; and he who aspires to reach the summit of professional attainment, must first "learn to labor and to wait."

These, then, are our parting words! This is our final counsel and advice! That you will heed the one and accept the other, we have the highest assurances, drawn from our intercourse with you in the months that are past. As you do this, so will you reflect credit upon yourselves, and on your chosen profession, and fulfill the expectations and the hopes of your ALMA MATER.

SIXTH YEAR MOLARS.

J. H. Paine, Xenia, O.

The First Permanent Molars, commonly called the "Sixth Year Molars," is assigned as a subject for essay upon this occasion."*

These are four in number, two in each Maxillary; are usually erupted between the fifth and seventh years of the child's age; though there are doubtless exceptions to this statement.

These teeth are situated in a line and just behind the deciduous teeth, and are erupted as soon as room is obtained by the elongation and expansion of the superior and inferior maxillaries. Much ignorance has prevailed, even among Dentists, and particularly in the medical profession, as to the character and importance of the preservation of these teeth. We have known instances of their extraction under circumstances unjustifiable, and unwarrantable, not to say wicked, and by those who ought to have known better.

A case in point.—Mr. P's daughter, aged eleven, was brought to our office to have the first left sup. molar extracted. At the time we were not at home. Calling upon the family physician, he extracted the tooth. A few months later, the first right sup. molar became troublesome. At once we advised the destruction of pulp and filling the cavity. To our astonishment the father did not know it to be a permanent tooth. This produced a "collision" between the physician and ourself, he insisting that these are "*shedders.*" By the aid of the books, we convinced the parent, if not the physician, that this class are permanent teeth. This is not intended to slur any member of the medical profession, unless he set himself up to know more of the dental organs, than could be expected of any student of medicine who has not made a specialty of dentistry. But to clear our way as we proceed, let it be said here, once for all, that *no* dental practitioner, extracting a first permanent molar, without protest and a laudable effort for its preservation, is excusable, unless the parent takes all responsibility; and even then, it is heretical practice. Money ought not to induce any one to do that which is wrong, abstractly or relatively. We unhesitatingly pronounce any dental practitioner guilty of mal-practice, who, without protest, and without effort to save, extracts *any* tooth. How much more guilty is that operator, who, to gratify a whim of parent, or save himself the trouble of the "curative process," extracts a sixth year molar.

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*Read at December Meeting of Mad River Valley Dental Association, 1865.

The case alluded to is not an ideal one; name, place, time, and proof, could be adduced if required. The pulp was devitalized, removed, canal and cavity thoroughly cleansed, and washed with an anti-septic, then filled. A few months ago, though three years have elapsed since filled, it was doing well.

An interesting question arises, as to the cause of the early decay of these teeth. We are not capable of an extensive or elaborate reply. The ablest pens in the profession are shedding light upon this momentous question. Doubtless poverty of the mother's milk in "earthy constituents," and the kind of food furnished the child, immediately before the eruption of these teeth, have much to do with their imperfect formation and consequent early decay, organized, as they are, advanced, and erupted immediately upon and during the nursing period. Anterior to this, however, it should have been stated, that the proverb, as old as the sacred oracles, "the fathers have eaten sour grapes and the children's teeth are set on edge," has more to do with the poverty of dentification, (as Mr. C., in the November No. of the Register, would say,) than at first might be supposed. No doubt, every operator of experience at least, has noticed the striking similarity of children's teeth to those of their parents. Can the child be expected to have inherited a good set of teeth of parents not themselves possessed of good dental organs? Of course not.

"Whatsoever a man soweth, that shall he also reap," is not less true in physical generation than in spiritual matters. But, thirdly: we don't have use enough for our teeth! What effort is required to chew our food? Do puddings, cakes, blanc-manges, pastrics, floating islands, mashed potatoes, and spongy light bread, afford developing exercise to our masticating organs? Some one has said, "war is a great demonstrator." Is not exercise a great developer? For this reason the man who uses tobacco has better teeth than another whose teeth lie idle in his mouth; other things being equal, (no thanks to the tobacco, though.) Doubtless cooking is well enough, but the articles of food are not of the best kind for furnishing, in the first place, (beside what are needed as nutriment and calorifacients,) bone-making material, so that our teeth shall be provided with hard enough dentine; and then in the second place, give them exercise enough. We expect but little amendment with regard to our own teeth, or those immediately descending from us; yet it is our duty to do all we can for posterity. Might we suggest an article of food that abounds in two of the needed constituencies of good wholesome diet, we would name boiled wheat. The *whole grain*, boiled, is not only nutritious, but firm enough, even after having been well boiled, to give exercise to the molar teeth, well calculated to increase their density, and containing, at the same time, that which is vitally important to their perfect development—bone-making materials. Nor is it unpalatable.

Chemistry is doing much by analysis, in specifications, &c., and is shedding much light upon the constituent elements of, and materials indicated for, cell-forming and dentine-producing materials. ATKINSON, with the theory of calcification, and PAUL, of New Jersey, with his theory of "what are bone-making materials?" are, we are glad to believe, marching forward to a clearer understanding of the query, why teeth decay? And why are they not as good as the teeth of our ancestors? But, says some croaker, "what can we do but pull out the decayed teeth and insert artificial?" We answer, much every way, and 1st, educate! educate! Where? when? and how? 1st, In the office, there is the dentist's grand forum. 2nd, By your lady patients, teach them, and they gratuitously advertise all with whom they mingle. We do not, however, object to written or printed "intelligencing" upon the subject, provided it is not done quackishly. Let us, then, brethren, hie to make amends to coming generations, by teaching, 1st, That the mother, acting for the child, gives a healthful and sufficient amount of food. 2nd, That the child, coming now to act for himself, refuse such articles, by friendly assistance, as candies, preserves, rich cakes, &c., hurtful, and that continually; and be taught to use only those healthful articles of food, as have been indicated by wisdom and experience, as best calculated to build up a healthful and useful organism.

ADDRESS.

BY GEO. H. CUSHING, D. D. S., CHICAGO.

Mr. President:—In addressing you at this time upon the subject of "Dental Education," I do not propose to extend my remarks beyond the consideration of a few prominent points, the discussion of which, I conceive, may lead to beneficial results; and shall endeavor, as briefly as possible, to review this matter by considering what are the chief means of "Dental Education; how are those means employed, and how can their efficiency be increased. And whatever of criticism may appear here, will be made in the kindest spirit, with the hope of advancing the cause which we all hold so near our hearts.

The chief means of "Dental Education" would seem to be "the dental colleges," "the dental journals," and "the dental associations."

Our "dental schools" should lay for us, broad and deep, the foundation of our education, in those great principles which must underlie any thorough and scientific "professional education, and though they are not, in all respects, what they should be, and are far from what we all hope to see them; yet they are so much in advance of what we could have expected thirty, or even twenty years ago, that any criticism upon their insufficiency would now be out of place. The chairs of instruction filled, as they are for the most part, by the ablest men in the profession, many of them teachers of long experience and large success as such; while of those younger in years and in experience as teachers, who fill important chairs in some of the colleges, their career as instructors and leaders in the profession, promises to be as brilliant as their ambition could desire. Our colleges demand our most loyal support, and should be nurtured with the tenderest care.

That this 'means' is not employed at all as it should be is too painfully apparent, and this is the fault of the profession. We do not insist half forcibly enough upon the absolute importance of these collegiate courses. The schools are not to blame for this, and we can hardly expect to see *them* taking any great strides in the direction of *internal* reform, while the profession are so slow to avail themselves of the advantages that *are* afforded. I say the profession, because it is the duty of all members of it to see that every student, from their offices, attends the full course of instruction in some of the colleges. This evil *can* be reformed, and it surely *ought* to be.

The reforms which are needed in the colleges themselves are sure to come in good time, as the profession and the public grow up to the proper understanding of what should constitute the true dentist.

Our "dental journals" next claim attention, and the same remarks which were made concerning the schools are, in a great degree, applicable to them.

They have far outstripped our reasonable expectations in the ability with which they are conducted, and in the amount of valuable and instructive matter which they bring monthly or at longer intervals, to every member of the profession, who does his duty by subscribing for them. Yet, do they not fall far short of the good they *might* accomplish? and this, too, through the fault of the profession rather than the conductors of the magazines.

The "journals" are the medium of communication between members of the profession situated at remote points; their columns are open to and earnestly invite the discussion of all matters of interest to the profession, and though much of great value is placed before us now, how much more *might* be, if the profession, generally, were more keenly alive to their duty in this matter? There is not half enough written by members of the profession at large; the contributors to our periodical literature are confined to but a few, while there are hundreds capable of giving instruction by recording their modes of practice, the results of that practice, and their various experience, as well as by presenting theories upon the many points yet to be illuminated, whose pens are ever silent. This should not be so, and it is to be hoped that an improvement in this direction will soon be manifest. Is it not thus evident that we do not employ *this* means of education as we ought; and we are not only, as a profession, open to the above criticisms, but to unqualified censure for not giving sufficient *support* to these "journals?" How many are there who do not take *any* "dental journal?" how many more who do not read one, even at their neighbor's expense? Let a reform be instituted here, for it is most sadly needed.

We come now to consider our "dental associations" as another of the means of education, and perhaps the most valuable of them all. It surely stimulates all other means, for is not the measure of success of our "colleges" and our "journals" in exact ratio to the energy of our various societies, Local, State and National?

In these "associations" we come together with a common purpose, each bringing something that no one else possesses, throwing all into the common stock for the common benefit. Men of various minds, seeing things from various stand points, theorizing differently upon the same subjects, some observing particularly, one class of phenomena, others observing other classes; meeting thus and discussing freely the subjects brought before them, throw light upon a hundred hidden points that otherwise would remain ever obscure. 'Tis from this free interchange of thought and experience that we are enabled to arrive at correct and intelligent theories, upon which all sound practice must be based. Who shall say then if this is not the first in importance of all our educational resources? Prof. Davis says in his work on "Medical Education," "as a basis of all permanent improvement, I must place an efficient internal organization of the profession:" This is certainly as true of the "dental" as of the "medical" profession.

Can we then be too grateful to the few earnest and faithful members of the profession—some of the *most* earnest and faithful of whom are present with us to-day—to whom chiefly is due the credit of inaugurating this associated effort, and of helping it forward by example, by advice and by kind counsel, to its present efficient position as one of the most valuable of our means of instruction? Do we show our gratitude sufficiently by our works? That many of our local societies are in vital activity, and are doing a good work, we have evidence from various sources — in the reports which occasionally appear in the "journals," of their discussions — in the articles which come from the pens of many of their members, and in the character of the men they send to the National association. That all are not thus vigorous I fear is too true, and even with those that show the most vitality, I fear there is a flagging zeal with some of the members, which is unworthy those who claim to be striving in a noble cause. That we do not employ this means as fully as we *might*, is very apparent, though the advance in this direction is more evident than in that of the other means of instruction; yet if the theory of Prof. Davis is correct, that the "colleges are patronized, just in proportion as the importance of the fundamental branches of science become better and more universally appreciated through the medium of these societies," we may reasonably hope soon to see a marked improvement in other directions.

Can not something be done to render this most valuable resource more valuable still? Much may be done if we work in the right spirit, not allowing ourselves to be cast down or discouraged at the obstacles to be overcome, but persistently pressing on, ever looking forward and upward, we shall come at last to a full compensation for all our effort.

Thus far I have spoken of our "local societies;" but I must mention our national association, which might almost claim to be classed by itself as one of the principal means of education which we possess. Conceived in a moment of inspiration by some of our noblest minds, and though inaugurated under discouraging circumstances, yet fostered by their generous care, it has grown to be the valuable instrument that it is in the cause of progress in our profession; and that its usefulness is yet largely to be enhanced can admit of no doubt; but do we employ this means for its largest benefit to the profession now? Is there no suggestion which, if acted upon, would increase the present usefulness of this association? We meet in this association the representative men of the profession; necessarily many of the finest minds, the largest culture, and the most extended experience; but do we get from this auspicious commingling the full advantage which might be expected? Let us look for a moment at the character of some of the discussions. A few of the leading members read papers upon the more abstruse points of physiology and pathology, and a few necessarily monopolize the discussion of these subjects, not only because they are better qualified to do so, but because many who would be glad to take some small part in these discussions, are deterred by the fear of being utterly overwhelmed by the weight of words, which their timidity suggests to them, might follow any humble remark or question they might offer. This is a perfectly natural feeling, (with very modest men at least), and is possessed by many of first rate ability and good acquirements, men who would only need kind and considerate encouragement to render them more actively useful members of the association, and I have sometimes thought that such men were not treated with the consideration which was their due. Then the discussion of these subjects absorbs a very large portion of the time of the association. That the discussion of these subjects is valuable and instructive, no intelligent man would attempt to deny; but do they not take too much time, to the exclusion of perhaps equally valuable subjects? Would not the time be more profitably employed by giving a portion of it to the subject of "practice?" The benefit which would be derived from a more general discussion of this subject, would, I conceive, be very great. There are very many who attend the "national association" who would be glad, indeed, to be instructed by the lips that talk so brilliantly upon these great "basal principles," and who could, if they would, talk equally well upon "practice;" and many, I know, are disappointed that so little is said of a practical character by men eminent and distinguished for their success in the treatment of cases that baffle the skill of the majority of the profession, which might lead them to a better and more intelligent practice in their sphere of action. Gentlemen should not forget that our profession is yet in its infancy—that it is only quite recently that "basal principles" and "scientific knowledge" have come to be regarded as of paramount importance as the foundation of sound and rational practice, and that we can not expect to bring all to the highest standard in a day. The profession is struggling manfully for advancement, is progressing most hopefully, and shall it not be encouraged by every means in our power? Am I wrong in thinking that here, too, a reform is called for? With diffidence, but with all respect, I say that I think this should be remedied. Could these reforms be brought about, then with a "national association" fulfilling its highest mission; with "local societies" in vigorous activity every where; with an increased "periodical literature," more generally contributed to and more generously sustained; and with our "colleges" stimulated to higher excellence in teaching, our profession would march on to the fulfillment of its destiny with unprecedented strides.

I have already occupied more of your time than I proposed to do; but perhaps I may be pardoned for trespassing a little farther upon your patience to consider briefly our position as a profession, as to where we properly belong among the professions.

Much has been said about the duty of the "Medical Profession" to extend to us the right hand of fellowship and to confess our brotherhood. That our profession is properly a branch of the Medical profession, and should be so considered, is beyond dispute. That the basis of our professional education should be thoroughly a medical one, I conceive to be susceptible of demonstration. That we should take rank with the medical profession I fully believe, and that the time will come when we *shall* so stand—unchallenged—is as certain as that this is an age of progress. But when I hear *some* men talk of this matter, and see the efforts they make to obtain the favorable notice of Medical men I can't help thinking that they are in haste to be recognized for what they are not. That there *are* men in our profession at the present time, qualified to stand beside the best in the "Medical" profession, we all know, we see some of them before us to day; but is the profession as a whole, so qualified? We need but to glance at the history and respective ages of the two professions, in order to demonstrate the unreasonableness of this claim. And may we not find some consolation in the thought of the position which the surgical branch of the "medical" profession, held toward the mother profession, so short a time since, as was told us by Prof. Brainerd in his address before the National association, last summer? Now what position more proud than that of the educated surgeon? Surely we may take heart, and "possess our souls in patience," when we see such men as Prof. Brainerd, standing among the leaders of his specialty, both at home and abroad, having his own word for it, that but comparatively a few years ago, the practice of his specialty was entrusted mainly to the hands of barbers; and remembering what he told us too, of the struggle which his branch of the profession had to go through to establish their claims, we should not feel too much discouraged, because we do not at once occupy the place which seems to be ours of right.

We must not forget that we are as yet in a state of development and at an early stage of development too, we cannot expect "to run before we can walk"; but we may rest assured that we shall stand side by side with the "Medical" profession, and shall be recognized by "medical" men, just so soon as we prove ourselves worthy of it—not before; meanwhile let us not be impatient for delayed honors, not envious but emulative, and thus striving with our might, in all honorable ways to advance our standard, we shall come in good time to take our proper place among the liberal professions.

AN ADDRESS.

Opening Address before the Mississippi Valley Dental Association, by the President, DR. J. CHESEBROUGH, *Feb.* 21, 1866.

Gentlemen:

Another year has passed away, and the events which have transpired within it have been forgotten or become matters of history.

Since our last meeting the world has seen pass before it such a panorama as will never be seen again. The curse of this land has been at one stroke removed, and the rebellion smitten, both never to rise again.

We are now in peace; and in that peace abounding in prosperity. Have we not much to give thanks for at this satisfactory state of affairs at this present day.

While feeling that our national affairs assume such a pleasing shape, we have great cause for thankfulness that our professional ones are none the less so. At no time since the foundation of our specialty have we felt the hope and the satisfaction that we do at this day. Our army of laborers have fought their way over many a rough road, bridged many a chasm, fought manfully for the right, and now knowing what is right, dare maintain it.

Look backward, if you will, for a little, and see from what we sprang, and, coming forward through the intervening time witness where we now stand. One hundred years ago where were all the aspirations, or even the nucleus of the science of to-day. Let us quietly drop the curtain over these ancient years and ways, they brighten not our hopes for the future in the recollection of the past. In regard to them let the motto ever be "*requiescat in pace.*" We may drop out the intervening half century ere we arrive at the progressive age, or the beginning of it. Within this period down to within twenty-five years, comparatively little was done. We must not forget the researches of the indefatigable Lewenhoek nearly two centuries ago, or later of John Hunter and Thomas Bell, those beacon lights that now shine out boldly amid the darkness.

But beyond these and other few, we have nothing upon which to boast at the beginning of a half century ago. The labors of our profession at that day, comprised little more than the extraction of teeth; in fact the Dentist, as such, was an unheard of being. The Barber then was the Dentist of the place, and frequently its Surgeon. Those indeed were dark days, to consign the sufferings of humanity into such murderous hands.

How each one of us would shrink from such hands were we the victims, in those days, of one of the thousand ills arising from the disorganization of the teeth.

It is said that our specialty is but little more than thirty years old. We can safely assume that age for it, for its growth can be put almost within those bounds. And what a growth!

From the puny offspring, willing to be fathered by none, looked upon by its brothers, Medicine and Surgery, as an illegitimate, it has grown to manhood, received the acknowledgement of equality from all its relations. Acknowledged by *itself* and accepted as a tie binding Medicine and Surgery, making a triplet with the unit and doublet.

To whom shall we accord the measure of praise due for all this; not only to Lewenhoek, and Hunter, Bell, Tomes, Nasmyth, Muller, Goodsir, Owen, Harris, Kolliker, Bond, but to those of our age and generation who have staked their all, and an indefatigable will, that success should be the crown.

We owe it to enterprise and ambition, and a determination to suceed at all hazards. Look if you will at the operations of thirty years ago and of to-day, and who among us would now countenance those first efforts? Who would for any remuneration go back to those days, and carve the denture from the ivory when, through the perseverance and will of Allen, we have at our hands, almost, if not an equal of nature?

Who would take the first effort of Stockton, when by the indefatigability of White, we are the possessors of imitation, that to all intents and purposes is a reality? And who among us would transfer the point and mallet of to-day for the old rope? Who would go backward and accept the doctrine that an aching tooth is a lost one, and therefore must be extirpated, instead of that most excellent practice whereby it is our duty to save all and extirpate none?

If as we look around us, we see such great changes as these; if we behold the light of knowledge shining on and before us; if that radiance which goes before to lighten our pathway, shines still brighter and brighter, day by day illuminating some intricate recess, where we have been stumbling over obstacles, and which are now brought to our sight and comprehension as clear as the light of day, and if we are led to believe that the future is as pregnant as the past, have we *no* reason to feel our hearts expand to comprehend the full measure of all this?

Each day witnesses some change for the better, some improvement which is a step in advance. And what is the cause and where lies the secret of all this progress? I can attribute it to associate effort more than to anything else; to just such meetings as this, where we come up to interchange our ideas, plans and perfections.

And the reason why such meetings tend to advance is that our natural contraction has to suffer an expansion. We hear the views and experience of others, and wherein we can put them into practice.

We find out thereby *that something* which we have long been seeking for, and it at once enters that storehouse of our minds, to come out again at a future day improved. We find that knowledge can only be gained by study, and our determination not to be in the rear rank urges us to renewed action as we pursue our vocation.

We come here and find out the immensity of the field of our specialty, and if we intend to be true and faithful to our patients and ourselves, we must study well all those intricacies of disease, which have their basis in the disorganization of the teeth, or are in sympathy with them.

We dive into the unfathomable depths of this sea; at whose bottom we are sure to find those pearls of great value to reward us for our labors.

The higher tone of the discussions that take place at these meetings, fit us better for our labors, and the more exalted nature of the each succeeding year, is another proof of our advancement.

Look if you will, at the order of exercises, and the lay out of subjects for the discussion at this meeting, and compare it with ten years ago. Then the half of the time of a meeting, was devoted to the pros and cons of amalgam, or similar nonality, now we strike infinitely higher and strive to see what burning flames we can bring out of Materia Medica, Physiology and Pathology.

We are but just upon the confines of the "promised land," and our own endeavors will carry us further into it. My heart beats with pleasure, as I dare give the brain freedom to run over a space of years, and behold this profession at the end of ten or twenty years from now.

The vividness of imagination is inadequate to foretell what may be in those days.

Had any one dared to foretell, fifty years ago, the advance of to-day, he would have been pronounced a maniac. I will not weary you with any picture I might paint; I could not give it too much color, however vividly I might portray the advance that will surely be made in that space of time. When we have so many true, earnest workers in the field, we may almost count upon anything as the result of those days.

Gentlemen, for you and me it is a pleasure to live in these days, more so if we are able by our research to advance our profession and receive the merit thereof.

This association having now passed its maturity, should be second to none. Born twenty-two years ago it is now the oldest in existence. It has outlived all others of its day. It has seen in some a death from inactivity, a rusting out; in others it has seen the bone of contention gradually swallow them up. It has seen the resurrection of others to life again after years of deathlike sleep. It has been at the birth of many, and extended always a cordial greeting to all its associates. Its latch-string has never been drawn within the door, and can be always found hanging on the outside.

It has been noted for its enterprise, its liberality and its advancement. It has never been in the rear rank. It always intends to be in the advance. Its actions are quoted over the East, West, North and South, where there is suffering humanity to relieve.

Your energies must be taxed to keep it in the advance guard. Your record must be placed among its archives, in order to hold up its arms in the battle for the right. I can do but little cf myself; with your assisstance I may do much. Mine I freely give you, that we may be as a bundle of rods, giving strength to each other and not to be easily burst asunder. Let us, therefore, take fresh courage, and strive to the utmost to advance not only ourselves, but our neighbors and friends, that we may be proud of our parentage, and make the name of the Old Mississippi Valley ring cheerfully in every ear.

DR. E. A. BOGUE'S IMPROVEMENT UPON THE KINGSLEY ARTIFICIAL PALATE.

BY GEO. H. CUSHING, D.D.S., CHICAGO, ILLS.

For several months past, I have been looking for some notice in the *Register* or *Cosmos*, of Dr. E. A. Bogue's improvement upon the justly celebrated Kingsley's Artificial Palate. This improvement was perfected some time in May last, and yet, thus far, I think no notice of it has appeared in any of the dental journals. This, it seems to me, should not be so; as I conceive that an improvement so valuable to the profession, and to the public, should be duly accredited to its author; and as no other pen seems ready to move in this matter. I propose, briefly to state the chief points of merit which this improvement seems to claim, indulging the hope, that through the instrumentality of this article, the invention may come to be more generally used, and suffering mankind thus more largely benefited.

All are familiar, I presume, with the description of the original Kingsley Palate, beautiful and ingenious in its design, and successful in its application; but those who *are* familiar with it, know how complicated it was in its structure, and that very delicate and skillful manipulation was requisite in its construction; while it proved, upon experiment, to be open to the objection, that it became softened and unfit for use, after being worn for a few months, rendering its frequent renewal necessary. Dr. Bogue's improvement simplifies, very materially, the instrument, rendering it not so liable to get out of order; while by combining the hard with the soft rubber in its construction, together with its entirely different plan, it promises to do away, to a great degree at least, with the objection of softening.

The original Kingsley Palate, as all know, was made entirely of soft rubber, being made to fill completely the fissure, overlaping, both above and below, the muscles at the sides.

To enable the instrument to be fully effective, it was made capable of contraction and expansion, laterally. Contraction being effected by the action of the muscles upon it, while the expansion was produced by its elasticity, while the lower surface of it was on a continuous plane, from the anterior to the posterior margin.

The improvement of Dr. Bogue, consists in making the lower portion of the artificial palate, as far back as the posterior margin of the hard palate, of hard rubber, and the upper portion, of soft rubber; the upper or soft rubber portion extending back as far as might be desirable, to form a sort of apron, which lies closely upon and above the muscles of either side, and which is above the reach of the tongue. Thus the muscles are left free to act, by sliding *by*, and *under*, the soft rubber palate, not by contracting upon it. To all who are at all familiar with the construction of the original Kingsley Palate, if I have made my description at all clear, it will at once be apparent, how much simplified the instrument is, by Dr. Bogue's improvement. Its plan and principle are, in fact, entirely different from the original.

The softening which was found to occur in the original, was chiefly in the lower portion, which was in contact with the tongue; and it will appear, from the description of the improvement, that the tongue cannot come in contact with the soft rubber, to any great extent, as the anterior lower portion is made of hard rubber, while the soft palate proper, is carried above the reach of the tongue under ordinary conditions. Those put in after the improved method, thus far, have stood the test longer than any of the original style. Of course, time can only determine how long they will prove efficient without renewal; but one recently examined, which was inserted six months since, shows, as yet, no sign of softening.

As to the effectiveness of the improved palate, as compared with the original, I think it recommends itself; I have seen three cases in which the improved palate is worn, two of them made by Dr. Bogue, and one by Dr. J. C. Dean, of Chicago. In two of these cases, the Kingsley Palate had been previously adapted by Dr. Bogue; and the patients expressed themselves as much better pleased with the improved than with the original; stating that the new instrument was worn with greater comfort, as well as that it seemed to accomplish more perfectly, its intention than the old one.

Another improvement of Dr. Bogue's must not go unmentioned, and that is, the adapting the moulds to the Whitney Vulcanizing Flasks; an improvement, which those at all familiar with the process of making one of these palates, will not fail to appreciate.

The profession, and the cause of humanity, are largely indebted to Dr. Kingsley for his beautiful invention, and perhaps scarcely less so to Dr. Bogue, for his valuable improvements, which must eventually prove a great blessing to very many afflicted ones; and it is to be regretted that so few, thus far, have been benefited by the results of these gentlemen's labors in this direction. So far as I am aware, but three dentists, west of New York, have successfully applied the instrument—Dr. Bogue, Dr. J. C. Dean, of Chicago, and Dr. Moore, of Leavenworth, Kansas. Doubtless there are others who may have done so, but these are all that have come to my knowledge. Surely it seems desirable that so great a boon to those afflicted with cleft palate, should be more generally attainable than would seem to be the case. That it is not so, is doubtless due to the fact, that no sufficient instructions have yet reached the profession, generally, to induce them to undertake so difficult and delicate an operation; and it is to be hoped that Dr. Kingsley, and Dr. Bogue, both, will, very shortly, furnish to the profession, through the columns of the *Register* and *Cosmos*, full and explicit directions for the entire process; that those who desire, and have occasion, may be able to *undertake*, at least, to relieve such cases.

The making and adjusting properly, these artificial palates, requires a high degree of skill, will always be an expensive operation, and never one to be coveted for the mere pleasure of it; but there are many dentists, throughout the country, who would undertake it, and some successfully, in the hope of being able to relieve those suffering from "cleft palate," if they had full and clear instructions, and thereby many more would be benefited than can now hope to be.

I fear I have not done full justice to Dr. Bogue's improvements, in my description, but perhaps he will give a more satisfactory account of them himself, as well as directions for performing the necessary operations.

My object in writing this article, was two-fold: to call the attention of the profession to what seems to me to be *very* valuable improvements (in justice to their author) upon an invention, the value of which, we can, as yet, by no means fully appreciate; and to induce, if possible, the writing of such articles, by Drs. Kingsley and Bogue, as will stimulate the profession generally, to extend the field to its broadest limit, wherein the beneficence of these valuable inventions may find demonstration. I have no doubt that these gentlemen will cheerfully act upon the suggestion, so soon as their attention is called to it.

Proceedings of Societies.

SYNOPSIS OF DISCUSSIONS, MISSOURI STATE DENTAL SOCIETY.

At its first Meeting, held Oct. 31, *and Nov.* 1*st and* 2*d*, 1865.

Reported by A. M. Leslie, by request of the Society.

Dr. I. Forbes suggested, as a method of profitably using the spare time during the organization of the society, that the leading points in practice be taken up, and each member be called upon, by the chair, to state *his mode* of doing the particular thing under discussion, and the *why* he does it so. By such a course the experience of all will be grooped, and each can improve his own practice, by the adoption of so much as he may judge to be better, in that of others.

This proposition being approved, in answer to the question:

WHY IS DENTAL RUBBER, WHEN VULCANIZED THE SAME TIME AND WITH THE SAME AMOUNT OF HEAT, SOMETIMES HARD AND AT OTHERS SOFT?

Dr. Peebles said, I cannot say what the cause is. The past two years, has used sandarach varnish on his models. Before that, used shellac. He finds that very fine plaster is very hard to cut away after vulcanizing. He prefers coarse plaster in the flask, as he finds it crystalizes, and comes out in a softer state. He does not think pressure necessary to vulcanizing, as he vulcanized a piece on a piece of paper, in a stove.

Dr. Jones thinks over-heating the flask and models, in packing, is the cause of difference in the hardness of different specimens. The rubber, he thinks, is frequently over-heated in packing. Another source is the use of a leaky vulcanizer. The sulphur necessary to the process being in part carried off by the escaping steam. In vulcanizing two pieces, in such a vulcanizer, at one time, he finds the lower one hardest, showing that the lower one gets more heat. This is true to a less extent in a perfect vulcanizer.

Dr. Blake thinks the cause is the difference of dry heat, as applied to the flask in packing.

Dr. Payne attributes the difference to the over-heating of the flasks in packing; uses shellac only as a varnish; adds more heat if steam leaks.

Dr. Cornelius thinks wax, absorbed by model, does not cause any change.

Dr. Spalding considers leaking of steam a cause. A cast brass vulcanizer will not vulcanize, because the steam escapes through the pores. Wildman says shellac spoils rubber.

Dr. Morse thinks leaking of steam the cause.

Dr. Spyer does not consider leaking to be the cause, as he had, when in Brazil, to use a vulcanizer for some time, which would not retain steam, yet he vulcanized; though he had to give it five hours.

Dr. Townsley mentioned a case in which his brother used shellac varnish on his model; this case came out pliable. Before and since, he had no trouble.

Dr. Hovey attributes hardness at some points, and porousness at others, to over-heating flask in packing; also to escape of steam. Formerly used shellac; for two years has used soap; finds this makes a clean piece of work.

Dr. Sloan holds, that rubber may be subjected to the same amount of heat in packing as in vulcanizing. The difference originates in the use of dry heat in packing, also from escaping steam. Hurrying at a high heat, makes it porous, especially if thick. If vulcanizer leaks, keep up the heat by adding more heat under the vulcanizer. Vulcanizes at 330° for forty-five minutes. In using thermometer first time, notes carefully the point the mercury reaches when the vulcanizing is right, and files a notch there, and is guided by that in preference to the scale.

Dr. Hale considers the difficulty originates in too high heat in packing. Has seen mercury and sulphur on the surface of pieces, showing an imperfect mixing or, decomposition of these materials. Porousness, he considers, is caused by rapid heat. He vulcanizes forty-five minutes at 320°.

Dr. Payne holds that thick pieces must have much longer time, at a lower degree of heat. Had tested a half inch piece beside a thin piece, in ordinary time, and found the thin good and the other spoiled. Vulcanized a piece one inch thick, six hours, at 270°; it came out good. He vulcanized some pieces in half an hour, at 340 to 350. In lower thick pieces, uses slips of platina embedded in the rubber; these form centres, which prevent burning. One case which he vulcanized thirty minutes, at 363, was worn six months, when patient complained of a metalic taste when he eat fruits or acids. He vulcanized it thirty minutes more; this removed the cause of complaint.

Dr. McKellops exhibited some specimens of English rubber work. One for regulating with, possessed some good points.

Dr. Clark understands that pressure and heat are necessary to vulcanizing.

Dr. Morse attributes the separation of the rubber from some teeth, to the presence of wax and oil; avoids this by boiling the flask in water before packing.

Dr. Leslie stated a case where he vulcanized with the safety plug blown out of a Hayes' vulcanizer.

Dr. McCoy considers the fact of plaster being a slow conductor of heat, we frequently do not make due allowance for this. The thermometer generally feeling the influence of the heat, sometimes in advance of the rubber.

HOW DO YOU DESTROY THE TOOTH PULP?

Dr. Clark said: Is very careful to remove all foreign and decayed matter from the surface of the investing membrane or pulp. Applies a very *minute* portion of arsenic, and covers with loose cotton, as he deems it a cardinal principle, in treating a pulp, that where there is no pressure there is no pain:

therefore has abandoned the use of arsenic, made up in the form of pill, with other substances; also the use of varnishes in the cotton covering.

Dr. I. Forbes, in applying arsenic, dips a pledget of cotton into sandarach varnish; takes up a small portion of arsenic and creosote on the point of this pledget, and inserts it in the cavity, after cleansing the same.

Dr. Hovey uses a paste made of arsenic and morphine; applies a small portion on cotton, covers loosely with another piece saturated in sandarach varnish. In straght fangs, has the patient generally return in twenty-four hours; in other cases, allows thirty hours. In some cases, thinks he has seen the action of arsenic extend through the dentine, for teeth when extracted have been colored. In cases of lower molar, the covering of *wax* had escaped, and the arsenic produced ptyalism.

Dr. McCuen prepares the cavity by fully exposing the nerve; he makes a concave cap for the nerve, of wood; under this he places the arsenic, and seals the cavity with wax. In approximal cavities, places a wedge gently between the teeth, to insure retention of arsenic, &c.

Dr. McCoy cannot add anything to Dr. Forbes' mode, which he procured of him two years ago and still pursues.

Dr. Peebles uses one part crystalized arsenious acid and four parts tannin, made into a paste, with creosote. Cannot always thoroughly expose the pulp. Takes three hatchet-shaped excavators; on one he puts a pledget of drying cotton, on one cotton and a small portion of the above preparation; on the other, raw cotton and varnish; avoids pressure. Applies from twenty-four hours to three weeks.

Dr. Sloan uses, chemically, pure arsenic. Exposes the nerve; carefully applies a small portion of arsenic, on cotton; covers with cotton and a strong solution of collodion; leave in five hours.

Dr. Prevost exposes nerve as much as possible; uses one part morphine, one part arsenic, closes lightly with wax; time, twenty-four hours. Thinks nerve cannot be killed without pain, unless fully exposed.

Dr. Payne, in very sensitive cases, applies creosote alone, for twenty-four hours; can then remove the dead bone easily; uses morphine and creosote to destroy pulp; plugs with a ball of wax, using heat to soften it; never plugs with cotton, as it absorbs moisture. Applies about twelve hours.

Dr. Morse has used arsenic and morphine, and arsenic alone; never saw any good from use of morphine; uses cotton mixed with wax over the application; time, twenty-four hours; had a stubborn case recently, when made three applications; then applied equal parts of alcohol and creosote, with as much tannin as they would dissolve.

Dr. Comstock removes decay: moistens a small piece of cotton with creosote; plugs with different substances.

Dr. Reed uses a paste of arsenic and morphine; covers with cotton; time, six to twelve hours; has not found advantage in the use of wax.

Dr. Goodrich treats like others; has had some bad results; attributes it to too much arsenic; in one case he had to remove a portion of the alveolus, from its bad effects, and names his as a caution to others.

Dr. Blake removes decay carefully; uses a paste of morphine, arsenic and creosote; plugs with sandarach and cotton, taking great care to avoid pressure.

Dr. McKee uses arsenic paste, applies to nerve, and plugs with wax.

Dr. Clark uses arsenious acid directly to nerve, and seals with creosote. Is opposed to the use of tannin, because it cuts off absorption; opposes the use of morphine, because arsenic is the best narcotic; covers with a piece of soft cotton. If the arsenic is preserved from the saliva, a half hour is enough to suffice.

Dr. Judd does not fear the constitutional effect of arsenic; generally uses a twentieth of a grain, which is a safe dose; the length of time is unimportant, in a white soft tooth, two hours is sufficient; in a dense tooth, twenty-four will do no harm; generally removes in two or three hours.

INFLAMMATION OF PERIOSTEUM AND ITS TREATMENT.

Dr. Judd said: the subject covers the whole ground of medicine. Inflammation *per se* is the most discussed subject in medicine. One theory of inflammation succeeds another. One says it arises from stagnation points, that is, at some points some portion of the blood will settle. Under a powerful glass, it is observed that the red corpuscles of the blood occupy the centre, and the white creep along the sides. When inflammation sets up, a derangement takes place. Two are seen to become attached, these to a third; some become attached to the sides, and so on; soon clogging up the capillaries and arresting circulation. These accumulations or attachments are broken up or separated in two ways; one is by gradual separation, the other by destruction of the cells.

For subduing inflammation of the dental periosteum, he relies upon the use of seline cathartics and lancing.

Dr. Clark has never been able to subdue inflammation between the fangs.

ABSORPTION OF THE ALVEOLAR PROCESSES, CAUSED BY THE PRESENCE OF TARTAR.

Dr. Judd does not think it yet established that this absorption is caused by inflammation. Sometimes absorption is seen when there is no tartar on the teeth. It is yet a question whether the tartar acts by pressure on the alveolus or on the gum. The absorption produced by pressure in regulating teeth, may aid us in arriving at correct views. Has not, as yet, read anything which satisfied him how absorption is caused when there is no tartar.

(TO BE CONTINUED.)

INFANT MORTALITY.—Of every hundred newly-born children, according to English life insurance tables, Dr. Wm. Farr says, twenty-six die in the first five years.

Selections.

THOROUGHNESS IN DENTAL OPERATIONS.

By W. S. ELLIOTT, D. D. S., Sag Harbor, N. Y.

The rapid advancement in dental science is made evident to the observer by the differences between the standards of excellence on the part of one and another of those operators who pronounce each and every effort good. One may perform an operation which he himself would deem *only* good, and which another would pronounce excellent, yet the superlative praise bestowed would not enhance the quality of the performance, but would rather mark the standard set up for all cases which. though pronounced excellent, would only reach mediocrity; whereas the consciousness that each operation is *only* good, tends to that increased energy which at last ends in the accomplishment of really excellent results. The disparity is made more evident as the test of time is applied, for the one who satisfies himself in pronouncing his performances good, may, sooner or later, be called upon to rectify that which was evidently a shortcoming, either through ignorance or want of skill; and on the other hand, the *only* good is followed by that which is truly most excellent. The motive in the one case as in the other is doubtless an honest one — to do all that would seem to be required for the good of the patient; yet it is not always satisfactory to those who repose confidence in that professed skill which so often controverts the results.

The young student inserts a filling which his preceptor may pronounce excellent; and such it may be under the circumstance of his limited knowledge and experience. The measure of praise is not unduly extended, for comparison is made to a standard temporarily set which to the beginner will be at least appreciable. As knowledge is acquired and experience gained, the standard is raised, and that effort which was looked upon as especially meritorious, is now regarded as perhaps quite defective in many essential particulars. Where the motive then is known to be unquestioned, the want of complete success is referable only to the want of knowledge of what is required in any given case; and he who assumes the practice of dentistry without that tuition which is capable of working up to the highest standard of excellence, will fall far short of what is required of him, and at the same time necessarily to the disparagement of his own interests.

How then shall the desired end be gained? The facilities for professional education in this country are so ample, that excuses for foregoing the advantages presented are utterly invalid, and the student who has served his term of private study, need not be thwarted in his purpose of honorably practicing his chosen and most worthy calling.

Empiricism and mountebankery rear their hideous forms from the undergrowth of ignorance all over this wide land, and would seem to prosper—to those who are struggling from day to day, honestly, earnestly, and intelligently to obtain a livelihood and achieve a worthy reputation. But the mountebank show is false, it is glossed over with the gold from the pockets of many a worthy and confiding patient, who will, most assuredly, pronounce the dictum upon that avaricousness and dishonesty which clutches at their hard-earned gains with pretentious assumptions. Then, to those who would eschew this class of operators and would rise above the level of mediocrity, I would say, read, study, write; and when opportunity presents, fall into the line of noble pioneers who are working, laboring, striving for your good.

The basal knowledge as offered by our collegiate institutions being attained, then work—work with a will to gain that goal planted by your Alma Mater. Be honest, be true.

But it was not my design to offer a dissertation upon the moral obligations of the dental practioner, but to make reference to a few of the causes of failure which are daily brought to my observation.

The operation of filling a cavity, I deem, is not necessarily complete, until the visual causes which would promote further decay are removed; for instance, a spongy or fungus gum approximates a cavity of decay to that extent that it is necessary to wedge it back in order to gain access, and, though the operation of filling is skillfully performed, a degree of failure may be anticipated by allowing the gum to return over a portion of the filling, thereby forming a receptacle for the retention of depraved mucus and other foreign matter. This is but little better than a porous or spongy filling. The proper treatment of the gums is necessary to complete success.

Again, in reference to the treatment and filling of pulp cavities which have remained open for an indefinite period.

To fill such teeth upon first presentation, is almost certainly to excite the periosteum to a degree of congestion or inflammation; and too great haste in the treatment thereof will tend to similar results. In most cases of failure it will be proven that either sufficient time or care was not taken in the preparation of the cavity; that the dentinal exudates were turned back too suddenly upon the investing membrane, thereby causing irritation. My usual plan is to thoroughly cleanse the cavity by excavating and syringing with cold water at the first sitting. In about six hours, syringe again and saturate with creosote, leaving the cavity open. The next day syringe —always with cold water—and apply cotton and creosote, which, after three or four hours, may be removed, the cavity left open a few minutes, then another pellet of cotton slightly moistened with creosote may be packed carefully but firmly into the root and covered with gutta-percha. In one week, if all has gone right, a permanent crown-filling may be inserted over the gutta percha. This plan, in my own practise, is generally attended with success.

Another common cause of failure, in the filling of approximal cavities, is a want of thoroughness in excavating that portion of the dentine nearest the neck of the tooth. This is particularly so when there is a spongy condition of the gums, which, as before observed, should be first restored to perfect health.

Many fillings too are failures from the imperfect condensation of the first portions of gold introduced. After anchoring the initial pellet, the utmost care should be taken that it does not become moved from its position. To prevent which, it is desirable to have an assistant who will press this portion of the gold to its place, while the operater proceeds to weld to the piece thus secured.

Finally, let each successive step in the operation be thorough, and you will have the satisfaction of knowing that the result is really excellent.

Death from Chloroform.—Another death from chloroform has recently taken place at the St. Mary's Hospital, Dublin. From the evidence at the inquest, it appears that all proper precautions had been taken, and no cause for the sudden syncope could be detected on post mortem examination. The chloroform had been given preparatory to the operation of evulsion of toe-nail.

CHICAGO DENTAL SOCIETY.

At the Annual Meeting of the Chicago Dental Society held April 2d 1866 the following officers were elected, viz;

Dr. J. W. Ellis, President.
" M. W. Sherwood, 1st Vice President.
" S. B. Noble, 2d Vice President.
" J. C. Dean, Cor. and Recording Secretary.
" Wm. Albaugh, Treasurer.
" W. A. Stevens, Librarian.
" M. S. Dean, }
" W. C Dyer, } Executive Committee.
" A. J. Harris, }

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NORTHERN OHIO DENTAL ASSOCIATION.

The annual meeting will be held in Childs' Hall, at Painesville, on Tuesday, May 1st, 1866, at 1 o'clock, P. M.

ORDER OF BUSINESS.

1st. Reading of Minutes.
2d. Election of Members.
3d. Election of Officers.
4th. Election of Representatives to the National Association.
5th. Reports of Committees.
6th. Reading of Essays.

DISCUSSIONS.

1st. The preservation of exposed dental pulps.
2d. The best means of removing exposed dental pulps.
3d. The best method of obtaining accurate impressions and models of the mouth.
4th. Dental Quackery.
5th. Miscellaneous.

Arrangements have been made for first rate hotel accomodations at the Cowles House.

B. F. ROBINSON,
Corresponding Secretary.

Cleveland, April 10, 1866.

WESTERN NEW YORK DENTAL ASSOCIATION.

SEMI-ANNUAL CALL.

The Fourth Semi-annual meeting of this Association will be held at Lockport, N. Y., on Tuesday, May 1st, at 10 o'clock A. M., holding for two days.

Operations at the chair will be performed during the meeting, and a session of unusual interest is expected. Members are particularly requested to be present, and all practising dentists desirous of becoming so, are cordially invited to attend.

SUBJECTS FOR DISCUSSION.

I. Absorption of the alveolar process and loosening of the teeth.—Causes and Treatment.—Drs. F. French, B. T. Whitney.
II. Constitutional effects of diseased teeth and Fangs.—Drs. R. G. Snow, E. H. Danforth.
III. Atmospheric pressure, and its utility.—Drs. L. J. Walter, G. C. Daboll.
IV. Filling teeth.—Drs B. S. Brown, A. P. Southwick.
V. Dental Etiquette.—Drs. S. G. Wood, Geo. B. Snow.

Geo. E. Hayes, President.

Geo. B. Snow, Secretary.
Buffalo, April 2d, 1866.

Editorial.

A SLIGHT EULOGISTIC MISTAKE.

In our enthusiasm, in view of the wonderful progress of our profession, we are liable to do injustice to the past. In the eloquent address of the retiring President, at the late meeting of the "Mississippi Valley Association," we are invited to look "at the order of exercises, and the lay out of subjects for discussion at this meeting, and compare it with ten years ago. Then the half the time of the meeting, was devoted to the pros and cons of amalgam, or similar nonality; now we strike infinitely higher etc."

I have made the comparison, and am convinced that the speaker himself must have failed to do so. See vol. IX. p. 237-8, of the "Dental Register." Take, as specimens, three or four of the questions:

"How can the color of the natural teeth that require filling, be most effectually preserved?"

"What is the best method of preparing gold for filling teeth?"

"What are the various pathological conditions of inflamed dentine; and what circumstances modify its treatment?"

"What is the *modus operandi* of arsenic, chloride of zinc, nitrate of silver, creosote, tannin, etc., when applied to inflamed dentine?"

Now, if at the late meeting, we struck "infinitely higher," I am doubtful about our going much deeper. The last question was partially discussed, and laid over, with a request for members to consider it, and report at the next meeting, or through the "Register." The first article, in vol. X. of the "Register" was written in accordance with this request, and was read at the "American Dental Convention," simply because it was ready.

And as to "amalgam," I have attended all the meetings of the M. V. A. but one, since 1852, and never heard it discussed, except once. Then the old society was asked to rescind a resolution adopted soon after its organization, which declared the use of amalgam "unprofessional;" but the resolution to rescind was lost, by *nearly a unanimous vote.* Our worthy President, I am sure, did not intend to reproach the "Mother society;" but her older boys are very jealous of her reputation. W.

PROFESSIONAL.

It gives us great pleasure to announce that our long tried friend and much esteemed professional brother. Dr. Wm, H. Goddard, of Louisville Ky., has resumed practice in that city; after a lapse of some seven years, during that time his attention having been given to other pursuits. But no pursuits, no other calling was so congenial to his tastes, as the chosen profession of his younger days.

We know this announcement will be hailed with pleasure by all who know him, and that the brotherhood will gladly welcome him back into the ranks of our profession. He is one of the progressives, and would never be content to occupy a position short of the front rank.

PERSONAL.

In the last number of the Register, on page 144 in the list of members of the committee to solicit contributions for the Ohio Dental College, appointed by the College Association at its late meeting, the name of Dr. W. H. Shadoan of Louisville Ky., was by oversight ommitted. He was appointed upon that committee, and we know will be one of its active members.

We gladly make this correction which is certainly due Dr. Shadoan.

MARRIAGE.

Married on Tuesday the 27th of March. Dr. H. A. Smith to Miss Lucy Tomlinson both of this city.

We wish Dr. S. and his fair bride all the happiness they are capable of enjoying. We are much in favor of all our freinds being made happy in the same way. Indeed to *all*, of maturity and discretion, we say get married—if it suits you.

DIED.

On the 14th of March, Dr. D. A. Wilder, in Jackson Mich., of inflammation of the brain. Dr. W. was a member of the graduating class in the Ohio Dental College at the last session. He was a man of rare ability and most estimable character. All who knew him entertained for him the highest regard ; indeed none knew him but to love him. In the prosecution of his studies there was none to excell him. And more than all this he was a good man. In him the profession has lost a talented and interested member, one who promised to be a bright ornament.

We sympathize deeply with her who has sustained the greatest loss, and weeps for the departed loved one.

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In the next number of the Register we shall publish several editorial items that should have appeared in this.

THE

DENTAL REGISTER.

VOL. XX.] MAY 1866. [NO. 5.

Original Communications.

DENTAL MATERIA MEDICA.

By Geo. Watt.

CHLORINE, Cl = 35.

CHLORINE, when free, is a yellowish green gas. It is one of the elements, and is characterized by strong affinities, and consequently, active properties. It is, accordingly, found in both kingdoms of nature.

PREPARATION.—It is conveniently obtained by heating hydrochloric acid and binoxyd of manganese in a retort, and collecting the gas as it escapes. As neither ingredient is costly, it is not necessary to be particular as to the relative. quantities. Equal weights of the oxyd and acid will answer. The chemist will understand the reactions of the process by an equation :

$$2HCl+MnO_2=MnCl+2HO+CL.$$

To collect the gas pure, the process of displacement is best. Extend the disengaging tube to the bottom of a dry bottle, the air will be driven out as the gas accumulates ; and, by the color of the chlorine, it may be readily seen when the bottle is full, But as the dentist usually wants only its watery solution, the discharging tube may pass into pure water which dissolves a quantity of the gas.

Chlorine is also prepared, and with less expense, by heating in a retort, a mixture of common salt, binoxyd of manganese, and dilute sulphuric acid. Equal weights of salt, manganese, acid, and water will give satisfactory results. The reactions are represented thus:

$$NaCl+MnO_2+2SO_3=NaO,SO_3+MnO,SO_3+Cl.$$

This mixture gives off chlorine freely, with merely the heat of a summer day. Hence it is convenient, as well as cheap in fumigating or disinfecting sinks, etc.

Properties.—Chlorine is ordinarily gaseous, is two and a half times as heavy as air, has an astringent taste, and a very suffocating odor. It is not combustible, but supports combustion. In the presence of water it destroys vegetable colors, and most offensive odors.

Uses.—Chlorine is, probably, the most reliable bleaching and fumigating agent known to science. A dilute solution of chlorine in water is a good mouth wash when there is a tendency to putridity, or where their is an offensive breath. It may also be injected into the cavity of the antrum, to arrest offensive discharges, and to relieve subacute inflammation of its living membrane. In bleaching teeth, it is very reliable; but I prefer the hypochlorite of soda for this purpose, for reasons which will hereafter appear.

Modus Operandi.—How does chlorine bleach and disinfect? That is the question. Mainly, if not wholly by its affinity for hydrogen. Dry chlorine will scarcely, if at all bleach dry tissue. It takes hydrogen from almost anything. When it takes it from water, oxygen is set free, and with its strong affinities, increased by the nascent state, it, too, goes to bleaching. Most coloring matters contain hydrogen, which will most certainly be yielded, when demanded by two such agents as oxygen and chlorine. By taking one element away, the chemical characteristics of the coloring matter are lost; and the remaining elements are left to seek new affinities.

The action is the same in fumigation. Sulphuretted hydrogen, ammonia, and phosphuretted hydrogen, are the ordinary stinks resulting from the putrefaction of organic matter. Chlorine exactly meets the demands of society by taking their hydrogen.

HYPOCHLORITE OF SODA.

This salt is sometimes called "liquid chloride of soda"; but chlorine can not unite directly with soda, hence the name conveys a false impression. It is called "Liquor Sodæ Chlorinatæ" in the United States Dispensatory, and is often sold as "Labarraque's Solution," from the fact that, about 1820, Labarraque discovered its disinfecting powers. But I prefer the name which, while it answers all other purposes, convey a knowledge of its chemical composition, that is, the composition of the compound to which the solution owes its medical properties.

PREPARATION.—It is most conveniently prepared by action on a solution of carbonate of soda with a solution of hypochlorite of lime, and filtering through a linen cloth, to remove the precipitated carbonate of lime. For full particulars, the reader is referred to the U. S. Dispensatory. The solution is so generally kept by druggists, that we are not often called on to prepare it.

MODUS OPERANDI.—The action of this medicine will be better understood by a careful notice of its composition, and the characteristics of the elements composing it. One equivalent of chlorine, combined with one of oxygen, forms hypochlorous acid. This unites with soda, to form the hypochlorite under consideration. Oxygen and chlorine are held together by a feeble affinity, and are, therefore, easily separated. That is the reason this solution undergoes decomposition in the air, or in contact with organic matter. When decomposed, oxygen, chlorine, and soda are all set free. The soda simply acts as an alkali. The chlorine and oxygen have strong affinities for many other elements, and especially for hydrogen. And these affinities have now the special energy of the nascent state. When free chlorine bleaches in the presence of water, the oxygen only is nascent; but with the hypochlorite both elements have this advantage. Accordingly, we discover by analogy, what is demonstrated by experiment, that the hypochlorite is a better bleacher and disinfectant than chlorine itself. In fumigating and bleaching, the base, soda, does not play an active part. It simply holds the other elements together till they are conveniently brought in contact with the substances which they are to decompose.

Uses.—These will be suggested to the dentist, to a great extent, by what has been already said. The bleaching, disinfecting, and antiseptic properties of the hypochlorite, render it peculiarly useful in dental therapeutics. Whenever there is an offensive odor arising from decayed teeth, diseased antrum, or morbid secretions of the mouth, its use is indicated. The odor is at once destroyed by bringing the medicine in contact with the part from which it emanates, It also acts on mucous membranes as a gentle irritant, arousing the vital actions so as to overcome morbid conditions. It is an admirable injection for the antrum, in chronic inflammation of its lining membrane, especially when there is a fetid discharge. When the breath is offensive, the mouth should be washed, and the throat gargled with it; and a small quantity of it may be swallowed with advantage. But with a knowledge of its mode of action, every one will know when to use it. It is *the bleacher.*

Administration.—As a mouth wash and gargle, the solution should be diluted with two or three parts of water. When used in the antrum, a dilute solution frequently applied, till the discharge ceases to be offensive, is preferable to those more concentrated. It may be injected, with profit, into alveolar abscesses, and pulp cavities. That it is *disinfectant* and *antiseptic* cannot be to strongly kept in mind.

In bleaching teeth it should be applied *frequently* two or three times in an hour, when practicable.

HYPOCHLORITE OF LIME.

This salt is called, in commerce and arts, "chloride of lime," in medicine, "chlorinated lime." It is so abundant, and therefore, so readily obtained, that a description of its preparation is not necessary. It is the cheapest and most convenient substance for fumigating sinks, spittoons, dwellings, etc. Its solution in water may be used as a substitute for the "Liquor Sodæ Chlorinatæ," or hypochlorite of soda. Its modus operandi is the same. By adding sulphuric, nitric, acetic or kindred acids to it, it gives off chlorine more rapidly.

DENTAL ETHICS.

BY DR. M. S. DEAN, CHICAGO, ILL.

Read before the Chicago Dental Society.

MR. PRESIDENT, AND GENTLEMEN. With the exception perhaps of the Sacred Ministry, there is no profession in which a higher standard of morality is imperatively necessary than that of *Dentistry*; and, unless it be that of medicine, there is no profession in which the practioner is beset more frequently with temptation to swerve from the line of strict integrity, and in which there are oftener delicate and difficult questions of duty presenting themselves, which require judgment self-denial and the aid of sound morality.

The object of this paper is to suggest some comprehensible rules, whereby the conduct of our professional life should be guided and governed; and as the writer will be able merely to touch upon a few points which first present themselves to his view, he cannot be expected to arrive at any very clear and definite rules, which will apply to each individual case that may arise in practice. But he hopes, at least, that it may be the means of eliciting the views of the society, which will result in the establishment of a code of *Dental Ethics*, founded on high moral principle.

Professional skill is due to the patient from the dentist; professional skill *honestly* directed. If the teeth are not skillfully treated by the operator, the patient is robbed, not only of his money, but, oftentimes, of his personal beauty, his comfort, and those living organs which science and art are unable to restore. The dentist, therefore, should not only be skilled in his art, but should direct that skill with judgment, care, and fidelity. These qualities are the more essential, because his operations are commonly of such a nature that his patron has no means of judging either their quality or their value. If he employ an artist to paint his portrait, the living features must be faithfully portrayed on the canvas, or the work is pronounced by himself and friends, as a worthless caricature. He is also, with tolerable accuracy, enabled to determine the character and worth of mechanic labors, and the handiwork of the artisan. But when he employs a dentist, he employs a man who is generally the sole arbiter, as to both the quality and value of his work, and must rely, wholly upon his *skill* and *integrity*; and although it is impossible for every dentist to acquire the first to an equal extent, the latter is fully within the control, and should be possessed by each, in an eminent degree.

These remarks cannot apply, with equal force, to what is termed the mechanical branch of our profession; although in *this*, our patrons rely almost solely on our judgement, mechanical and artistic skill, yet this work goes forth, to be submitted to the test of criticism from the most scrutinizing eyes. But if our labors in this branch of dentistry, prove to be worthless, we have only imposed on the confidence of our patients, and defrauded them of a little money; in the other case we have added, to both of these the crime of destroying the priceless living dentures. How important, then, that we possess not only skill, but that sound moral principle, and strict integrity, should guide our professional conduct.

As before intimated the dentist is not unfrequently beset with temptation to deviate from the strict line of duty; sometimes from a genuine sympathy for his suffering and sensitive patient; Sometimes from his insulting language, and ungovernable action; sometimes from a consciousness that his best efforts will not be fairly requited nor fully appreciated; and sometimes, from his own lack of time, or want of energy, or from various other causes, he is tempted to perform his operations in a careless, hasty, or indifferent manner. When thus assailed by temptation, the dentist should gird himsef in the bright armor of *Fidelity*, and his instruments, like the spear of the guardian angel of Paradise, should be "touched with celestial temper."

Skill and integrity, it has been remarked, are due to the patient from the dentist; so likewise are patience, kindliness, and respectful courtesy. The dentist should not be a man of vulgar, or clownish manner, but a man of-good breeding, politeness, and civil deportment. *For his profession is the offspring of refinement*; and from its very nature, he is necessarily brought into more intimate social relation with the more polished and intelligent classes of society than are the members of any other profession. Hence, he should not only be skillful, but a man of culture and refinement.

His reception rooms should be comfortable, appropriately furnished, and cheerful in their appearance; with a few books and drawings, perhaps, to amuse and divert the attention of his patients in waiting, and to prevent them from suffering those imaginary tortures, which are generally more excruciating than they ever realize. And *here*, as also in the operating room, there should be no display of anatomical specimens or drawings to shock the sensitive mind; nor show-cases containing exhibition of his handiwork. The operating room should be convenient, and devoid of all ostentatious show of instruments; for that day has gone by, when a brilliant display of pearl and and polished steel, are taken as evidences of the skillfulness of the dentist. His instruments, however, should be kept in perfect order, and so arranged that the one he needs may be quickly selected, without that confusion, which would be the result of a want of system. His patient should not be nauseated by a foul and odorous spittoon, nor rusty instruments perfumed with creosote, and bespattered with blood, nor by the uncleanly hands of the operator. But spittoons, napkins, instruments, and whatever is used in and about the mouth, should be scrupulously clean. While the dentist *generally* grows more careful in regard to the quality of his operations, he is too apt to become careless and slovenly in the minor details, which are most essential to the comfort of his patient, while these operations are being performed.

He should receive his patients with polite attention, but not with obsequiousness, nor excessive complaisance. His manners, should be easy and unconstrained, but not too familiar; and, bearing in mind the delicate and sensitive structure which he is about to treat, and perhaps the nervous temperament of his patient, he should endeavor to allay her fears, and proceed with as much care and gentleness, as is consistent with a thorough treatment of the case. His patient should be made to understand that he is not reckless in the use of the pointed steel, nor totally regardless of the amount of pain he may inflict. To do this, he need not be profuse in his protestations of sympathy, for too many words are often worse than none. Nor should his sympathies ever be allowed to arrest his hand, in the faithful performance of its duty.

Equanimity and self-possession are also qualities of unspeakable value to the dentist; although his task is generally a wearisome and perplexing one, and his patience is often sorely tried, by the unguarded and inconsiderate speech or actions of his patient, while he is taxing his best energies in his behalf, yet it is highly important that his temper should be always even, and that he carefully repress everything like excitabillity, or irritabillity. For if passion be allowed to prevail, his judgement and dignity are dethroned, and he degrades himself in his own esteem, and in the eyes of his patient. And, while he should always be firm, without being obstinate, there are times when both his manhood and his duty require him to treat his patient, not with anger or petulance, but with *moral severity.* There is however *less* danger of our allowing these unpleasant occasions to pass unnoticed and unrebuked, than there is of our anticipating them.

The young dentist is naturally anxious to do a large business at once, and is to apt to resort to the many means at hand to gain notoriety, and attract public attention, with the view of bringing patients to his office. The newspapers teem with his advertisements, setting forth his passing skill, in glowing terms, and the wonderful cheapness of his painless operations, and circulars of the same import steal under the door of every shop and dwelling. At the entrance of his office may be found perhaps, exhibitions of his art or ingenious contrivances to attract the attention of, and arrest the passer-by. Thus, from a desire of commanding immediately, a large and lucrative practice, he lowers his own dignity; and hangs as a dead weight upon the skirts of his profession. A less mortifying course, and one far more satisfactory in its final result, and honorable to the profession which he has adopted, would be for him to confine himself, generally, to his office, even if it should require some self-denial and privation, and make himself a thorough master of his art; devoting his leisure time to study and experimental practice. And in the mean time, the business that comes in, at first perhaps, slowly, let him treat with great care and fidelity. Let him possess habits of neatness, punctuality and candor, towards his patients, and strict honor towards his professional brethren. And it may be safely predicted that his business will grow as fast, as it is good for him that it should grow; while he gradually becomes able to sustain a large practice without being bewildered or overwhelmed.

There has been in ours, more than in that of any other profession, except that of medicine, a disposition on the part of its members to disparage the skill of their cotemporaries in practice. And, although that spirit still exists to a considerable extent, though there are some yet who are either so conceited, or so selfish as to *seem* to believe that skill can reside in no other hand than their own, their number is few and rapidly becoming less. These by their unjust criticism, and sneering manner, injure the profession, and wrong its members, without doing themselves any permanent benefit. But there are cases which come within the observation of every dentist, that show either the lack of skill or honesty or both, on the part of the practioner, and which are totally inadequate to accomplish the object for which they were designed; teeth inserted which are unnatural in appearance uncomfortable, and useless; fillings, which only serve to lull the patient into fancied security in regard to his teeth, while decay is insidiously stealing its way, rapidly, towards the nerve pulp. When the person who is the subject of these, or other unsuccessful operations, seeks our advice and aid, it is undoubtedly our duty, though it be a painful one, to point out their defect, and suggest the remedy. And if we should find the major part of this work to have been skillfully performed, the patient should be made acquainted with that fact. And if there should be any possible reason for believing that some circumstances, not within the control of the dentist, might have prevented him from doing *all* of his work skillfully, we should not condemn the operator, but the result of his operations. For who is there among us with such unbounded confidence, and with so little experience, that he dares to assert that all of *his* operations will prove to be good and substantial? Whilst we should be exceedingly careful not to unjustly disparage the works of others, there is a class of operations which we sometimes meet with, that shows incontestably the want of skill, and the total ignorance of the pseudo-dentist who has crept into the profession, without the knowledge of the first principles, either of its theory or practice. In such cases, our duty, as the guardians of the teeth, require us to condemn, in the strongest terms, both the operator and his operations. A system of petty warfare between members of the profession is productive of good to none, and is, by no means, a very harmless or consistent amusement. Yet not unlike most professions, ours is not entirely free from this blemish upon its character. This warfare is not so often carried on openly as covertly; and the weapons commonly used are impalpable, and not easily parried; and consists mostly of hints and inuendos. An example will illustrate my meaning: A person who has had a tooth extracted at your office, a week or two previously, enters mine, with the idea that his jaw has been fractured, or that portions of the root still remain. I remove a slight fragment of the alveolar process, and in answer to his inquiry of "what is it?" I reply, "*A piece of the jaw bone!*" This assertion being unqualified, fully confirms the patient in his belief that the tooth had not been properly extracted. Again; you may be so unfortunate as to break off the crown of the cuspidate, and your patient will not allow you to complete the operation, but comes to my office, some time after when it has become loosened in the socket, and I remove it so easily, that the patient can hardly believe the evidence of his senses, when he sees the long, bloody root in his hand. In reply to his look of wonder and astonishment, I carelessly say, "O that's nothing, when you know *how* to do it!" My design might not be to injure a member of the profession, but to elevate myself in the estimation of the patient and of whomsoever he might tell of my wonderful performance; yet I wrong you by implication. The man who adopts such a mode of practice, or a similar one in regard to *any* of the various operations of other dentists, cannot but be regarded as a dishonest and dishonorable member of the profession. When our patients have come from another's office, we should use the utmost candor, under all circumstances, and be particularly cautious to use no deceit or evasion that will tend to injure *unjustly* our profession; at the same time, having the good of our patient eminently in view. This is imperatively demanded, both by considerations of *duty* and *interest*.

The man that is skillful, honest, and industrious, and devotes the best energies of his life to the practice of a useful profession, should receive a liberal remuneration for his services, so that, when he becomes disqualified by the infirmities of age, he may be able to live, if not in affluence, at least comfortably and independently, during the remainder of his life. In order to secure this, the dentist should be better paid *for the time he employs*, than are those engaged, in most other callings, and especially those engaged in commercial pursuits. For *they*, in their declining years are generally the most prosperous; and often, in the afternoon of their life, reap their most abundant harvest of wealth. While at the same period in *his* life, the dentist becomes unfitted for the skillful performance of his professional duties; for, although his mental vigor may remain unimpaired, his right hand has forgotten its cunning; the firm, steady, yet delicate touch, so necessary to his manipulations, has become feeble and uncertain, his strained and over-taxed eye-sight has also become prematurely weakened and dulled: and now it is too late for him to engage in other business pursuits, with a probable prospect of success. Hence, I say, the dentist who has given the vigor of his life to his profesion *should be more liberally compensated for his skill and time employed* than are men engaged in most other professions and pursuits. This important fact is not sufficiently impressed upon the minds of our employers, nor on the minds of those engaged in the practice of our profession. And while I would not contend that the dentist, for his *thirty* years of practice, should receive an amount equal to that which some other professional men, and men engaged in trade, realize for their labors of half a century, yet I do most conscientiously hold that *his* compensation, in proportion to *theirs*, should be much greater than *thirty* is to *fifty*.

The subject of compensation for professional services between the dentist and his patrons, is often a delicate and embarrassing one, as there can be no fixed standard of their value. They depend upon the skill of the operator, the difficulty of the operation, the amount of time and material used, the benefit rendered, and, upon the ability of the patient. And, while there may be, sometimes, cases, in which it is the duty —or privilege of the dentist to work for a small and insufficient remuneration, or even nothing,—he owes it to his profession, as well as to himself, that when his patient has the ability, *his services should be recompensed according to a liberal standard.*

And now, gentlemen, having only glanced at what appeared to me to be the most prominent features of the subject under consideration, I will simply add, in conclusion, that, while we study to become useful and eminent in our profession, and labor for its elevation, honor, and advancement, we should be careful, not to become mere dentists. For, to reach the higher walk of a profession, something more is needed. Let the collateral sciences and polite literature, be cultivated, in our hours of relaxation. Not so much for their practical utility, as for their mental discipline, and rich stores of pleasure and knowledge which they afford. For there is great danger that, in the every day routine of our profession, to the exlusion of every thing else, the mind will become cramped and dwarfed, so as to disable it from taking enlarged and comprehensive views of topics which lie beyond the reach of our professional domain. And there is nothing so well adapted to fill up the interstices of business, to afford us rational enjoyment, and to smooth pleasantly, and honorably, the downward path of age.

DENTAL HOBBIES.

BY L. P. HASKELL.

THAT *Conservative* Dentistry is the most important branch of the Art, none but charlatans would pretend to deny; it is more desirable to retain and preserve what nature has so beautifully adapted to man's use, than to remove, and substitute therefor man's inventions. Desirable as *these* may be as the *dernier resort,* they are often resorted to from ignorance, or from selfishness.

The wonderful progress already made in conservative dentistry is certainly gratifying to every well-wisher of the profession; and doubtless the time is coming when, to *preserve* the teeth will be the *chief*, if not the only business of the dentist. This, however, will be brought about through a thorough education of the community, in all that pertains to the health, securing, thereby, that care and attention to the teeth, together with the other organs of the body, from childhood on, that will alone secure and preserve a perfect development of them. We shall not live to see this era; but that it will come there is little doubt.

This may seem strange language for one who has confined his attention, almost exclusively, for twenty years, to the construction of artificial substitutes for these important organs; yet such are my convictions. Still, as there is much of this work to be done, for many years to come, I offer these remarks as a preface to some words on the subject of Dental Hobbies; and in doing this, will confine myself to such as are connected with *artificial dentistry*, leaving that numerous class, pertaining to operative dentistry, to abler hands.

Dental Hobbies are often a curse, sometimes to the profession, but oftener to the public, and are used in many instances simply to advertise and augment one's business, and *not* to benefit the patient. As, for instance, an individual says to himself, I must have some advertising dodge to bring myself before the public,—what shall it be? I will devise some new method of inserting teeth, and in a short time the world is astonished at the anouncement of a new invention surpassing anything before known, whereby teeth can be inserted "cheaply, expeditiously, and in a manner that defies competition." He sends out, also, his agents, to dispose of office rights to other dentists, those, however, generally remote from his own immediate sphere of action, and finds plenty of just such ignoramuses as himself ready to purchase, but soon to realize that they have been *sold*, and wishing that the inventor, or his invention had been "*still-born*." And why? Simply because the work is *impracticable.* It may have some good points, and answer a very good purpose, provided it is never broken. But as accidents of this sort will happen, then, when the repairs become necessary, the work must be made over entirely, or so nearly torn to pieces as to be equivalent to making a new set.

No such dentures should ever be made, for it is dealing unjustly by the patient, who supposes he has a piece of work that can be readily repaired, and without costing almost as much as a new set. All such work ought to be discountenanced by the profession. I would mention, as an instance, such work as is known as the "porcelain," where no metal plate is used.

This is but one phase of dental hobbies, still another, is where the dentist takes some such method of inserting teeth as the Vulcanite, (excellent in its place,) but uses it exclusively in every class of cases. This hobby he rides to death. It should be an axiom in dentistry *that there is no one kind of work suitable for every class of cases*; and the dentist who acts upon any other principle, fails to meet the highest requirments of his calling, and does great injustice to his patient. There are cases where the Vulcanite answers a better purpose than anything else; and the man who condemns it, simply for the reason that it tends to *cheapen* dentistry, rides a very foolish, unwise hobby, and his motives do no credit to his heart at least.

Then there are those who insist that nothing but gold should be used in any case. Gold is, and ever will be, an excellent base for dentures; but he who asserts that it *alone* is suitable for such purposes, rides another hobby, in consequence of which his patients suffer, for there are numberless cases, in which either Vulcanite or Platinum are far preferable.

There, again, as to *methods* of inserting teeth: One says, always extract all the teeth remaining in the jaw, if there be but few; and others say, always leave the roots in and put your plate over them. This is a hobby which it is better that none should ride when there are so many circumstances by which one is to be governed, in such cases.

Some insist that, in *all* cases of partial sets, clasps should be used; and others insist that clasps should not be used in any case. The bests interests of the patient cannot be secured by either of these hobbies.

Then as to the *manner* of doing work; one says, that, in order to secure the best results, an impression of the mouth must be taken, a casting made, and an impression cup swaged up, in which the impression is to be taken. Another says, take an impression in wax, and a plaster one in *that*. Another insists that wax impressions are *equal*, if not superior to any, and prides himself upon his skill in taking them. Now none of these hobbies may affect the patient particularly; for individuals may succeed well, in many cases in the use of either, but the dentist, who spends his time uselessly, and in complicated methods, and flatters himself that his is the only reliable method, and induces others to use it, without testing, in comparison with others its value, is the one, with them, to suffer from riding this hobby.

Now, as to the manner of doing work, the *simplest* method, that accomplishes the object, is the best. We are all inclined to follow, more or less, stereotyped methods, without asking the reason why, or whether another method would not be preferable. *Simplification* and not *complication* should be the aim of the dentist, always, of course, keeping in view, attainment of best results. Let me present a few illustrations of this idea.

In taking impressions, having tried all the various methods, I find that a simple plaster impression answers every purpose, and in some cases is absolutely indispensable, as for instance, partial lower sets, where the success of the denture depends upon a *perfect* impression, more than in any other case; in some of these cases, such is the shape of the jaw, and position of the teeth, that wax cannot be used.

In making the "dies," or castings, some use a complicated flask; whereas, if care is used in preparing the model, so that it will *drop* from the mold, (and a model will always *deliver* itself better than it can be *picked* out,) there is rarely a case that will occasion trouble; and there again, in the worst class of cases, lower ones, "undercut" on the the lingual side, such flasks are useless. By using oiled sand, which packs better, and is less liable to break away, the difficulties are still further obviated. Sand, thus prepared, is always ready for use, and there is no danger of its "blowing."

Metals used for "dies" may be referred to in this connection. The requisites are, *hardness* without being brittle, the *least shrinkage* possible,and that will require a low temperature to melt. Tin is too soft; type metal and fusible metals too brittle; and zinc shrinks too much, and melts at too high a temperature to be used in oiled sand. Now the metal that meets all of these requirements the most fully is *Babbit* metal. It is sufficiently hard, without being too brittle, when properly prepared, has scarcely any shrinkage, and melts at a low temperature.

In swaging plates, some take great pains to swage an upper plate without cutting it open in front, spending much time to accomplish a very undesirable result. If they would consider the subject for a moment, they would see that in order to accomplish this, the plate must be cramped and contracted at the edge, leaving it in a condition in which it will be more liable to warp upon the application of heat in soldering the teeth, than if it had been cut open; and then the plate is made absolutely stronger in its weakest point by cutting and lapping.

In the articulating of teeth, some have what might be called the *articulator* hobby, using an articulator and depending upon that, without using the patient. Now, that sets of teeth can be made to answer a purpose in that way I do not deny; but that the best results can be attained in this way, I assert is impossible. A correct expression to a set of teeth cannot be obtained, without the use of the face itself.

It may be asked, "are not your own suggestions hobbies?" Not according to my idea of a hobby, which is a persistence in pursuing a certain method or routine, where a different one would be equally, if not more effectual, and at the same time more simple.

In conclusion, as I said before, let us aim to *simplify* processes in securing the best results, and then the young practioner will not be so often led astray, as he looks over our dental journals, for suggestions, and be misled by the various methods of doing this, that, or the other thing, some of them, perhaps long since discarded for simpler and better methods.

EXTRACTING TEETH.

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(Read before the Mississippi Valley Association of Dental Surgeons, at their annual meeting, February 23, 1866

GENTLEMEN OF THE ASSOCIATION:—Having been appointed at our last meeting to "speak a peace" at this, I shall feel that my task is accomplished, if I succed in *entertaining* you a few minutes, though possibly from my age and experience, some of the younger members might expect to be instructed, as well as entertained. I know "but little," nor that little much.

If I make a long journey from home, I do not meet with *very many*, nor very startling incidents! nor yet do I make the acquaintance of either "confidence" men or women! If I go fishing, I do not catch very *many*, nor very *large fish*; and I may add, I do not "*take a smile*" often enough to constitute me an "*active* member" of the piscatorial fraternity!

If at home I read my Bible, and meditate on the visions of the Prophets, I do not see their fulfillment in the passing events of my life, nor do I see the dawn of the Millenium, lighting up the portals of the near future, I do not hear the "music of the spheres," nor do I commune with the *spirits of the departed.* If in my office, by dint of hard labor, I sometimes suceed in making a good operation, I do not think it very wonderful. But if, of the little I do know, I can add one mite to the interest of this association, or to the advancement of my profession, I cheerfully make the contribution.

Much has been said, and much has been written, on the subject of extracting teeth. More might be said; for, as the fifty-two cards of a deck, may be shuffled, an indefinite number of times, and each cut show a new trump, so of the fifty-two teeth, liable at different periods of life to need extraction, each presents a new feature in each individual for whom we operate. More judgement is often required in diagnosis than skill in operating, the healing power of nature will soon hide the blunders of the unskillful; but it will not restore a lost tooth.

No unvarying rules, however, can be given, defining the exact time when either deciduous or permanent teeth ought to be extracted. The age of the patient, condition of the tooth itself, its relation to those around it, the general health of the patient, its local or general effect upon the health, or upon the appearance of the patient, all these, and many other considerations are to bear on the question of extracting, or preserving any given tooth. Perfection of development no doubt depends on perfect health; but apparently perfect health does not always produce perfection of development in the teeth.

I shall not attempt to show when a tooth should be extracted, but content myself with a few words, as to the manner of doing it, after it has been decided to be necessary. It is fair to presume that you all understand the relations which the teeth sustain to the surrounding parts; each tooth being firmly held in its socket by means of a ligament, the rupture of which must necessarily occur in its extraction. Physical force, if applied with persistent energy, is alone sufficient to break up this connection; but as you would not set a board edgewise to break it, so you would more easily break this ligamentous attachment, by lateral rotary, internal, and external motion, combined with direct force.

But little preliminary operating is usually required, for their attachments are so protected by the alveolor processes that the knife will not reach them, except merely around their borders. Hence it is not often necessary to "lance the gums," which will not be lacerated by the operation, unless the process itself be broken, and come away with the tooth; and no human forsight can divine whether or not this will be the result. Since my earliest experience I have seldom used the lancet. In the use of anæsthetics, I found it impracticable, and that led me to see that it can generally be dispensed with; and as all patients contemplate extracting with horror, I endeavor to assuage their fear as much as possible, by presenting but few preliminaries, making but little display of instruments, and, without delay, make *one* instead of *two* operations. The tooth is thus often out, before the patient is aware of it. Being greatly delighted, he is apt to indulge in extravagant praise of the manner in which it was done, *ninifying* instead of *magnifying* his sufferings. "Why, your whole operation hurt me less than Dr. Smith did in cutting the gums," much of which is only imagination; but if we can get people to imagine themselves well served, it is all right, for *every body loves to be humbugged!*

This simplifying of the operation is especially necessary in extracting teeth for children, who will not often submit to be hurt more than once at a sitting.

But there are cases in which the *lancet must be used heroically*. These are when the teeth, either by accident or decay, have broken down to, or below the alveolar processes. The gum must then be divided to an indefinite extent, towards the apex of the fang, depending in length on its suppossed strength. A flap is then to dissected, each way from this line, sufficient in extent to allow the beaks of the forceps to slip under them and coming in contact with the processes, they must be cut, or crushed through, thus removing them with the fang. The folds, or flaps of the gum then fall together, the divided line often unites by first intention, protecting the other parts in there process of healing and absorption. To facilitate this operation the beaks of the forceps should be longer than usual, and, grasping with a firm hold, it will often happen that the pressure on the alveolus will be sufficient, with its elasticity without being either cut or broken, to *squeeze* out a fang, just as the pulp of a grape is ejected from the skin by pressure. But as a general thing, the fangs are only removed at the sacrifice of the alveolus. Nor, indeed, can they sometimes be removed at all, without subjecting the patient to more pain than seems to be justifiable. I have said the beaks of of the forceps should be longer than usual. The blade also should be longer, that more leverage power may be given. I have learned, by experience, that very long forceps are a good thing with which to break *teeth*, as well as alveolar processes. Having sometimes failed in extracting teeth, for want of physical strength, especially in the superior molars, I ordered forceps one foot in length. With these I seldom fail to—*break a tooth*! and I am not alone in this sort of success; for one day I loaned them to my distinguished friend, Dr. Driggs, who afterwards told me he suceeded admirably—in breaking off the tooth! He has not wanted to borrow them since! After I had extracted one tooth, and broken two or three, I sent them back, to have them so altered that the *extracting* should have the majority. After a time they were returned, so altered that they cut off the tooth. I then took them to a celebrated manufacturer in Philadelphia, who so changed them that they now break a tooth with almost unerring certainty! It is proper here to remark, that Dr. D. did not borrow them *till after my return from Philadelphia.*

I do not often use them in *extracting!* I try everything else first. It is sometimes a satisfaction to do *something*, even if you cannot do what you intended; but it never afforded me any particular pleasure to break a tooth—I had *rather do nothing.* I once tried three times to extract the first left superior molar, for a servant girl of some 17 or 18 summers—could not move it—patient went home. My partner returned—I told him what I had *tried to do.* He "would like to see a tooth *he could'nt extract!*" In a few days he *saw it!* With his fourth effort he broke it; destroyed the exposed pulp and sent her home! I believe if I had had my long forceps *I could have done as much!* No doubt, skill, as well as strength, is required to properly extract teeth; though it does not seem particularly essential to success, for it often happens that men who have most reputation for extracting teeth, are most miserable general operators; nor do I believe they excel in extracting, but having the happy faculty of winning the confidence of their patients, they convince them that *bad* is *good* and *pain* is *pleasure.* This is their essential element of success; for as I have said, people love to be humbugged. They will leave a man who has never made them a bad operation, nor charged them an exorbitant fee, and run to some humbug-stranger—some "celebrated" Quack,—pay him double the price for bad operations, that they have usually paid for bad ones. They then run to, and fro, up and down the earth, crying "come and see this wonderful Dentist who extracts teeth without pain, the gums are all "*healed up*" by the next day! he plugs teeth so *easy*! And talks so nicely! O he's the best dentist in the world!."

Of the various devices for extracting teeth, the forceps every where take the precedence, the Elevator, and the Key following in the wake, the latter of which, seems to be nearly abandoned *by Dentists.*

I will briefly notice a few patterns of Forceps and the mode of using them. For all teeth with single fangs, the beaks are to be made smooth on their approximal surfaces, which, when held up, shall present the surface of an imaginary frustrum of a cone, the tooth itself being the cone, or at least somewhat conical in shape. Pressure on the blades, with very little of other force or motion, will dislodge them with a popping, snapping, sound, as if the tooth were broken.

Being all nearly alike in shape, we thus dispose of all the teeth with single fangs, and proceed to notice the molars, beginning with the first inferior. The Forceps for these are to have their beaks somewhat triangular, or tri-surfaced, taper steadily to points, and so curved that in grasping the tooth between the fangs, their approximation will lift it by the pressure of the hand upon the blades; the points resting on the alveolar processes, which serve as a fulcrum for the lifting, leverage force. These forceps, if properly made, will not often either break or split the tooth.

Those for the second (molars) should have their points of adaptation—one for each fang, and one for the space between the fangs, which, on account of their proximity, do not furnish a sufficient guide for forceps with single sharp pointed beaks. More physical force in connection with the usual internal and external movements, is required to luxate their attachments, the forceps fitting well around the neck of the tooth. Those for the third molars—"dentes sapientiæ"—are rather for *prying* than *lifting*; the second molars forming the fulcrum, while the closing of the beaks *between* the teeth, together with a backward, upward and inward force compels them to quit their habitation. The excellence of these forceps seems to be overlooked by some Dentists. The backward curve of the fangs of these teeth, together with their wedged position, renders them difficult to extract by the application of direct force; but by putting into practice the method I have attempted to describe, the operation is very simple.

I was once in the office of a Dentist who had bought the instruments of his predecessor. I was admiring the excellence of some of his forceps, and especially those for the inferior wisdom teeth. He did not appreciate them, nor my judgement. He said "they would split the teeth." I told him how to use them. He soon changed his mind about them. I was surprised to find a man of my own age, who did not know how to use so invaluable an instrument.

We now pass to the superior molars. These usually have three fangs, the inner one standing boldly alone, at an angle of 10° to 20° serves as a firm prop, preventing the possibility of much inward motion, the outer and direct force must be increased in corresponding ratio, the outer beak of the forceps being so sharpened and fitted that it will hold firmly in the groove made by the separation of the fangs, while the inner one is to be fitted to the base of the lone fang.

Ordinary physical strength, if properly applied, is sufficient to extract these teeth—*on the right side*! But I have nothing to say about those of the left. I cannot extract them. I sometimes "pull" at them; and, and by means of main strength, I get them out. But they do not suit me. I do not like their "style." They are "*too* set in their way;" and being on the opposite side of my patient, I cannot easily get at them. I once came near getting my own *neck* broken in a fruitless effort to extract one! Leaving them for some abler operator, I pass to the second molars, which are so like the first that no description of either tooth or instrument need be given. Lastly we find the superior wisdom teeth have such insignificient little fangs that but little skill or force need be applied to them, and coming so nearly under the head of "teeth with single fangs," I refer them to that class of teeth.

There are but two positions usually taken in extracting teeth, that for all lower teeth (except the wisdom and first molar on the right side) being behind and above the patient; that for all others being rather in front, and to the right side. By common consent, everybody expects something with which to wash the mouth and gums, after extraction. Nothing but a little tepid water is really needed; but you must give them something as a placebo to quiet their fears of bleeding too much or to keep them from "taking cold," or to make their gums "*heel up*." The simplest, and probably the best thing is a little Tinct. Arnica in warm water. This will prevent their calling for "*Whiskey*," or "Salt," or

"*Camphor*," and will probably assist nature a little in performing her wonted functions. But you should always leave the door open for your patient to "take cold!" If you perform a bad operation, it is a convenient hobby on which to saddle your blunders; your teeth set on pivots never give pain, nor induce an abscess unless your patient has *taken cold!* If you treat the pulp cavity and fill a dead tooth, or fill it without any preliminary treatment, it always does well, unless your patient "*takes cold*! If you take out a portion of the pulp, leaving the rest, partially paralysed, to "die and rot," and fill the tooth over it, it always does well, unless your patient "takes cold!" I would not have you close this door! It might compel you to "tell the *truth* and shame"—*yourself.*

Post Script.—Since writing the above, in regard to superior molars on the left side, I learned to take a position not laid down in the Books, so for as my observation has extended.

You may smile, but I do not care. If I cannot extract them in a legitimate way, and upon "approved principles," I have the right to try a little strategy.

Now hold your breath, while I go round on *the other side of my patient*, where by turning his face *well from* me, and taking a position *well in front* of him, I can get at these teeth in such a way that I have more control over my own body, and can hold the head of my patient equally well with my left hand. By thus changing my *line of base*, I am enabled to operate with my elbow nearer my body, giving me better use of my own physical powers.

I thank you for kind attention.

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LITTLE THINGS.

BY J. A. ROBINSON, D. D. S., JACKSON, MICH.

Read before the Michigan Dental Association.

The common excuse among those attending this convention for not presenting any written document for our consideration is "that they cannot write in a manner to instruct or edify their fellows; or, that they cannot find anything *new* to say upon any of the subjects under discussion."

In commencing a great Epic Poem, a distinguished writer has said:

> I want a hero, an uncommon want,
> Since every day and month sends forth a new one;
> Till after cloying the Gazettes with cant,
> The age discovers he is not the true one.

In casting about for a subject, I have not sought for a hero, but have chosen the smallest subject, and the smallest things; and if they are treated in a small way, you may say it is owing to the subject, or the small man, who treated it according to his capacity.

It is the atoms that make this great world; and the valleys and fertile fields are made from what the great mountains have cast away in the smallest particles, or the unseen deposits that have floated silently down the rivers. It is the invisibles that cannot be seen or felt, that help to grow the corn, and the hay, and every vegetable production that covers this great and beautiful earth. So it is the insensible perspiration that is quietly and silently passing out of the open doors of our physical organism that preserves our life and health. It is the little virtues of men and women that make them the great men and women of the world; and the little kindnesses we exhibit towards each other, that help to make this life pleasant and agreeable.

It is so in science; it is so in mechanism; and it is in dentistry. It is a little thing to say "keep your excavators and pluggers sharp, and see that they are in order, before you commence upon a tooth; but upon that depends the perfection and finish of your fillings. It is a little thing to say, "prepare well the corners and edges of your cavities; but upon that depends the durability and permanence of your plug." It is a little thing to say, "be sure that your fillings are kept entirely free from moisture; but upon that depends the thorough welding, or uniting the particles of gold. It is a little thing to say, "be patient, be thorough, be careful, be strong, and give every one who employs you, your *best gift*," but upon that alone depends your success as a dentist. It is a little thing to say, "be clean, be gentle, be modest, be manly;" but upon that depends your acceptability as a dentist. These things are, to the dentist, what the rains and the dews are to the plants and the flowers; they serve to make them flourish and grow, and become ornaments to society, and to the world. So it is in artificial dentures; the little things are the final adjustment or articulation, to see that every tooth impinges against every other tooth, so that mastication is perfect. Millstones will not grind, unless they touch each other, nor scissors cut well, unless the edges fit nicely together.

Much of the success of vulcanite work depends upon the quality of the plaster. Michigan plaster is the best I have ever used. Models made of Grand Rapids plaster are as hard as brass, (so to speak.) The most delicate points will be preserved through the whole process of vulcanizing; and no amount of steam or pressure will mar the surface, or render it unfit for use. It is a little thing to say to you, put your plaster into the water, rather then pour your water upon the plaster when mixing it: but by so doing you will have a more perfect impression or cast. It is hardly worth mentioning, to say, be careful not to put too much oil into your impression, before pouring your plaster; but oil occupies space, and the imperfections will be seen through the whole work, till it finally appears in a roughness upon the under side of the plate, when vulcanized.

This is the little atom of arsenic combined with creosote, that softens the pain in a raging tooth, when it is vehemently beating in its prison cell, almost enough to drive one to distraction, and quietly distroy its vitality, and renders it capable of being exterminated without pain or trouble.

It is the tiny blade of the lancet that depletes the vascular system, and restores harmony and peace, where all was discord and anguish, It is the little pellet of gold, or cotton, forced into the foramen of the tooth, that expels the death gas that causes suppuration and ulceration. It is the welding of each little particle of gold upon every other piece, that preserves the tooth, and restores its contour and beauty. Pluggers grow dull as well as excavators, and every one should possess a *knife-blade oil stone* to dress them, and keep them in order; and each pellet of gold should be prepared to receive the next pellet, and so on till the plug is completed; a good plug was never made with a dull instrument.

Gentlemen of the Convention, I hail, with satisfaction, the return of this anniversary of this Michigan State Convention, there is much to be proud of, it was in this convention that the first *Clinical operations* were introduced, that have since become so popular, and that have done so much to sustain and elevate the profession. You will forgive the earnestness and freedom with which I have spoken; but it is the voice of one who has, for thirty years, been a Dentist, and one who, for more than twenty, has worked with a single idea; and that has been the preservation of the natural teeth.

"MORE LIGHT."

BY DR. A. LAWRENCE, LOWELL, MASS.

Permit me to call the attention of the Dental Profession, and the scientific world generally, to the new light on the subject of steam, as set forth in an article in the "Register" for Dec. 1865, p. 505, by a writer, whose modesty deprives the public of all but one initial of his name.

The third paragraph of the article is so lucid, and yet so at variance with the vague notions upon the subject usually entertained by those heretofore considered well versed in such matters, that doubtless a new era in steam is about to be ushered in. The ideas advanced are of the utmost importance to the civilized world, upsetting old theories, and pointing out the sure means of rendering the use of steam entirely safe. There is, seemingly, but one difficulty about the new theory, and that is at the starting point, when steam just begins to form, and is what engineers call saturated, or as the writer has it, "lubricated or moistened."

At this point some little care must doubtless be exercised, especially by the old school, to prevent explosions; as we are now to remember that steam is "of the most force," when weakest. After the critical point is passed, with a full supply of fuel, there is nothing to fear; for as extra heat lessens its force, all that is required is to increase the fire, until eventually, if need be, the water is absolutely frozen in the boiler. A patent could probably be obtained for this new method of producing ice, which it is hoped will not be lost to the fortunate inventor.

The laborious experiments which led to the discovery should be remembered, and a monument of steam would be the tribute of respect a grateful public could bestow.

The new absolute theories applied to his experiments, would account for the thermometer standing at 320°, and the guage at 110lbs, on the idea that one or both instruments were imperfect, or not of the best construction, else improperly applied; also that when the thermometer indicated 340°, and the guage only 30lbs, that the steam was escaping at some point where it did not act upon the water in the coil, *if indeed one was used*, and not from an impossibility to create over 30lbs of steam from "one-third of a tumbler of water" in a common vulcanizer; but the improved solution is that the high heat so lessened the force of the steam that no greater pressure could be obtained.

On the 10th of Jan. ult., my assistant put a flask, with a set of teeth imbeded in plaster, into the vulcanizer, with *no water* except what the plaster contained, and yet the case was vulcanized perfectly in an hour, the guage during that time indicated 85lbs., and even more. The neglect to put water into the vulcanizer was purely accidental; and I had supposed, there being no waste of steam, that very little water was sufficient to generate steam enough to act upon the guage, but the deep researches of those more familiar with such matters, learns me where

"I run the gauntlet of a file of doubts,
Each one of which down hurls me to the ground."

In this condition I beseech some one to charitably give us "more light."

For the rest, see "Scientific American" for March 3rd, 1866, p. 145.

Postscript.—I submit for the special benefit of knowledge thirsting souls my Patent Steam Catechism:—

1st. How much pressure can be created in a "Buckeye" Vulcanizer with ⅓ of a tumbler of water at 320°, and how much *less* at 340°?

2nd. What is the ratio of *decrease* in the force of steam passing from 320° to 330°, and what temperature above will produce a vaccum?

3rd. What is the percentage of water in "well lubricated" steam?

4th. Are boiler explosions caused by a reduction of heat, and the consequent expansion of "lubricated" steam?

5th. What is the cubic capacity of a "Buckeye" Vulcanizer in inches, and what ⅓ of a tumbler; also how much steam will ⅓ of a tumbler of water produce under a temperature of 340° or 320°?

6th. After a given amount of water has been "expanded to its utmost, or crowded into steam" how much of the aqueous fluid will remain for heating?

7th. At what temperature is steam "expanded to its utmost."?

SYNOPSIS OF DISCUSSIONS OF MISSOURI STATE DENTAL SOCIETY.

Reported by request of the Society, by A. M. Leslie, D. D. S.

(Continued from Page 185.)

Dr. Clark—Gentlemen seem to misconceive his ideas. He is convinced we frequently call that absorption which is not absorption. There are two very distinct causes of absorption. One is pressure. The effects of a grain of sand placed under the gum will illustrate this class. Most foreign substances lodged in the living tissues, will, in general, result in necrosis, more or less extensive. Does not suppose this result always is reached through inflammation.

The only good treatment in such cases is, first, to remove all foreign substances. Failing in that you fail in the case. Do that, and ninety-nine hundreths will recover.

In the other cause of this disease, (absorption of the alveolus,) he was still more in the dark. Finds, here, the margin of the gum and the periosteum inflamed. In some such cases, has never succeeded in subduing the inflammation. What the irritant is that produces this inflammation, he knows not.

Dr. Hovey—Has no doubt absorption of the alveolus is the result of some infringing substance. Tartar not only produces inflammation and absorption of gum, but goes on until it infringes on the alveolar processes. It follows up so as to reach the points of the roots, in some cases. He thinks that in the cases referred to by Dr. Judd, an acid will be found to be present, which is the result of pus. He had a set of teeth made for his own use. During their use, as absorption progressed, foreign substances would accumulate on them, sufficient in three days to acidify a pint of water.

Dr. Judd—In some cases absorption goes on when there is almost no disease in the gums. When they are turgid, could account for it as a case of scurvy. But had seen absorption existing where there was no tartar, and the saliva was bland. Syphilitic origin may be suspected when the whole mucous membrane is turgid.

Dr. Clark—For arresting the disease, trusts to astringents and cleansing. Is at a loss in treating cases when these are not indicated. Has tested with litmus paper, and generally found the saliva free of acid. Probably not one in ten showed an acid re-action. Has tried alkalies, astringents, creosote, and nit-argenti. The last being most successful,—but its use is apt to cause absorption of the gum. It causes union at the point where tartar ceases, but the free portion is destroyed. Finds in these cases an irritated state of the neck of the tooth. Objects to all applications to it.

Dr. Payne—Had a first bicuspid in the second condition and could not touch the neck with a brush. Applied creosote and arsenic and restored the gum. Tooth now good.

Dr. McKellops—Has failed in the second class of cases with all kinds of treatment. One case was a lady, aged 25. Had perfect teeth which she took great care of. He could see nothing the matter with the gum. The gum over the right central incisor began to recede. There was no soreness, no elongation. At times there was a little discharge. Tried, effectually, the big and little nigger of Dr. Atkinson's Pharmacy, but found injury only to result. Cannot account for this case. Dr. Morse reports to him that he has seen the case, and the absorption progresses and that the tooth will be lost.

Another case is a gentleman, aged 50. Takes great care of his teeth, which have a transparent appearance. Consults his dentist regularly. Finds no deposit. On pressure of the gum there is, at times, a slight effusion. At times, the mouth is very healthy. General absorption, however, is going on around the six front teeth. There is no tenderness of the necks of the teeth. Has no doubt the disease has a syphilitic origin. Another case was one in which the party went to Europe to be treated. There he was treated rigidly as for syphilis. Portions of the superior maxille were so dressed that a probe could be passed through them. Had several teeth extracted and was ultimately cured, with the loss of but a small portion of the hard palate. He underwent the treatment in a German hospital, especially devoted to the treatment of syphilitic diseases.

Dr. Hale, Jr.—Had a similar case to the second mentioned by Dr. McK. Dr. McClurg, of Ky., recommended the use of crocus and alcohol. This seemed to act like a charm, as the case got well. Has used it since with good effect.

Dr. Wilson—When practicing in Rochester, in 1848, a lady complained of pain in second lower molar. Found no cause for tooth-ache, and declined to extract. In two months she again insisted on extraction. Still declined. Thought he now discovered a slight opacity. He declined a third time to extract, but she returned afterwards with the tooth in her hand. He probed the process and found it quite porous. He since extracted two teeth for her.

Dr. Clark—Has seen a case, something like this, result from trying to break a hickory nut. The result was necrosis.

Dr. Judd—Has seen a few cases like these. Supposes the pathological conditions the same. Extracted, in one case, seven teeth followed by an operation. Has seen cases where a small loss occurred. In other cases, osteo sarcomo has resulted. Some of the most difficult surgical diseases have their location in the mouth and face. One case with the gum much inflamed, had been treated several months by physicians. On examination, he concluded it was scurvy, and treated it with lemonade, producing a cure in three weeks. Had seen one child, 4 years old, with ulceration around four superior incisors. Treated this case locally with nitrate of silver, and constitutionally with stimulants and tonics.

Found, in some cases, that the use of nit-argenti before the use of stimulants and tonics was injurious. In such cases he procured the effect of the stimulants and tonics first, after this found the N. Scl. efficacious.

Dr. Hovey—Thinks these difficult cases must be scrofulous, and approved of the constitutional treatment.

Dr. Prevost—Gave a case of a child in Ohio, 7 years old. Suffered long with left side of lower jaw. Probed and found a necrosed piece of bone, loose. First and second molar both diseased, extracted them and the necrosed portion, and the recovery was good.

Dr. Eames—Has had two cases in which he used the "big nigger." One was a gentleman with four incisor teeth exposed, in part. One quite loose, and could be removed easy.

Under this treatment is now doing well. Another was a lady with loose teeth, which are now doing well. In other cases, has found variations. Some improve and some fall back again to the former condition. Two or three applications generally restore to health, in favorable cases.

In the first case he cut down to the point of the fang of the very loose tooth, that he might clean it thoroughly.

Dr. McKellops—While in New York, looked in on Atkinson. Saw several cases he was treating. They were all syphilitic. Some were affected in the mouth, others in the face, others had sores on the legs. He treats them constitutionally, and gives them peculiar baths. He tried a bath on himself. After a thorough opening of the pores of the skin, by the application of warm vapors, he rubs with a Russian towel. He then thoroughly washes the skin with lemon juice, which is followed by annointing with pure olive oil. To Atkinson he sent a leading opera singer, who had a dead molar tooth, with one fang denuded. This was pronounced a syphilitic case.

Atkinson was supposed to have been very successful in the treatment. He afterwards met this patient in Paris, and found the tooth still troubling him. He found the fang still denuded. He finds the preparations of iodine and creosote useful as local applications for soreness.

Dr. Judd—Desired to know what is the principle involved in the use of Atkinson's solutions. Supposes they act on the same principle as made use of in the closure of cleft palate, by action in the edges of the surrounding membrane.

ALVEOLAR ABSCESS.

Dr. Forbes—In alveolar abscess he sends the patients home to apply water, as hot as bearable, and directs brushing the gums until they cease to bleed. Then removes the tartar. In young patients this is generally enough. If pus is present, he uses the iodine preparations and constitutional treatment. If the patient is past the meridian of life, considers success uncertain. The hope then of restoring the process, if absorbed, is very small. Has never succeeded in accomplishing it. Does not believe the *bone* has been restored. He wants to see this. If the process can be raised one line, it can be raised two. If two, why then it can be to the edge of the gum. Remove the cause, and nature with a little stimulant, restores the loss, unless membranes are removed.

Dr. Hale, Jr.—In answer to Dr. Forbes' question, "Is the fashionable mode of drilling into a tooth to relieve abscess" yet followed, would say, his father for thirty-five years has practiced it. He thinks it practicable, if not fashionable. Thinks it good practice when a tooth gives great pain two weeks after filling.

Dr. Morse—Thinks the perforating to relieve pain is not good practice. If the nerve is dead should be removed and fang filled. Had a tooth in his mouth drilled and found it very offensive until removed.

Dr. Hale, Jr.—Can show many cases in his father's practice where there exists no continuous discharge.

Dr. McKellops—Considers it no better to drill a hole and leave it open, than to remove a plug and leave the cavity open. He removes the filling and treats the fang. A case he saw in an office in Paris, was a central incisor in gent's mouth. A knitting needle could be passed up between the teeth. Tried Atkinson's preparation first; then recommended phenic acid, the first application of which removed all smell. The opening in the gum finally closed and the tooth was preserved. Considered it a very difficult case to treat. Has great success in alveolar abscess over the front teeth. Admits the hole made in the tooth will relieve from pressure, but the smell remains. In plugging fang prefers gold to the point.

Dr. Clark—A surgeon sets out to extirpate, as far as he can, obstructions to nature. The dental surgeon should not stop short of the same. Like Dr. McKellops, his hobby is to treat dead teeth. In early days has filled teeth which ulcerated. Afterwards has drilled to give relief. This was a great disgust to him, as, although he gave relief, he considered that tooth a dead one. When he went to New Orleans, he rejoiced to get off from those pest houses. In New Orleans he resolved he would take time in every case. Will not refer, here, to the origin of removing the pulp, (that he has done elsewhere), and leaving a clean thing in the mouth. Looks back with pleasure to that part of his practice. No dentist has a right to stop short of doing all he can to save any tooth. Is glad the dentists of Missouri are doing all they can to remove all diseases in their field. In cases where there are sacks on the point of fangs, he generally treats through the alveoli. First, however, he tries what can be done through the fang. He has heard much about restoration of processes, but has yet to see the first case of such restoration. In cases he has spoken of, there does seem to be a filling up. But he believes if we cut down we will find all such cases are not filled with bone.

Dr. Rivers—Was consulted by a young lady. Found her right superior literal incisor loose, gum and lip swollen. Found no decay. Other teeth good. Would not allow drilling, as pressure hurt. He would not extract—it suppurated. In four days was able to drill into it. He then applied all Atkinson's preparations. Has treated it six months, and, as yet, no success.

Dr. Clark—Referred to difficulty in lateral incisors in such cases.

Dr. Forbes—Considers the lower molars the most difficult cases to treat—attributes this to the gravity of the pus in the fang. He treats these by syringing out clean, then wipes out as dry as possible; uses, cotton and creosote, (the first as a non-conductor), pressing as near point of fang as possible. Thinks his old plan of using cotton moistened with creosote and then dried, as a non-conductor, possibly better. He invariably fills the fang above the cotton with gold.

Dr. Clark—Cannot see any bad effect produced in the surrounding parts by filling the entire fang with metal. No objections to use of creosote in preparing such teeth, the only use he has for a non-conductor is in living teeth. In some cases this change of temperature may be of some use, as a douche is of use to the body. Thinks it benefits some teeth which are filled. Has ceased experimenting with new materials for filling, since he was satisfied gold well put in a cavity will preserve a tooth at that point. Believes the nerve may be extracted from 1-16 to 1-8 inch beyond point of fang.

Dr. Forbes—Believes we do not remove beyond point of fang.

Dr. Hovey—Believes the fangs still possessed of some life. Therefore, it may be proper to fill them with a non-conducting material. Uses cotton and creosote at the point of fang, and thus tans the part. Enlarges the crown cavity, but thinks it best not to enlarge the fang cavity. Finds great difficulty in buccal fangs of superior molars, and the fangs of lower molars. Syringes thoroughly. Thinks about twenty-five per cent. of these cases have to be re-treated.

Dr. Clark—Is well aware the fangs are held in by living tissues, and does not consider a fang a foreign body; still he considers it not sensitive to the change of temperature. Is certain he can remove a portion of pulp greater than the length of the canal.

Dr. Forbes—The advancement of science is the expression of what has been discovered. Has seen a man three days on the witness stand learning to tell *only* what he does know.

Dr. Blake—Uses cotton at the point of fang, because it more perfectly closes the foramen.

Dr. Morrison—Thinks cotton can be carried to the point of the fang with a fine broach. Considers the theory of a non-conductor in the fang as good. Uses it and creosote, but not as a non-conductor. Thinks them a good filling for fangs of lower teeth. Uses creosote to make an insoluble compound with the albumen.

Dr. McCoy—Asks older practitioners how they reach front fangs of second sup. molar, with the cavity in the posterior approximal surface.

Dr. Forbes—Does not get into them, does not cut away, does not drill; trusts to the effect of creosote.

Dr. Eames—Would drill. Cuts away the cavity, and gets into the cavity if possible.

Dr. McCuen—Is satisfied with removing the pulp in main cavity, and gets into the fangs as far as possible.

Dr. McKellops—Does the best he can in such cases. He cuts perfectly through the crown. Cuts right down in the cavity, enlarging it until he reaches the fangs, and trusts to restoring the form by building up with gold. If he cannot get into the fangs he extracts the tooth. In the case of the singer he spoke of sending to Atkinson, he found A. had cut through the sound portion of crown to get at the fangs, to clean them. He (McK.) does not fill until all irritation is removed. Sometimes this takes sixteen weeks.

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MINUTES OF MISSOURI STATE DENTAL SOCIETY.

St. Louis, Oct. 31st, 1865.

Pursuant to a call made by the St. Louis Dental Society, the Dentists of the State convened at New Church Hall, corner of Sixth and St. Charles Streets, at 10 o'clock, A. M.

On motion of Dr. Peebles, Dr. John S. Clark was called to the chair, as temporary Chairman, and Dr. G. S. Morse as Secretary.

On motion, a committee, consisting of Drs. Forbes, Sloan, Comstock, Depp, and Eames, were appointed by the Chair to draft a constitution and present the same to the meeting.

The convention took a short recess, when the house was called to order by the Chairman.

Dr. Peebles proposed the following query: Why is it that rubber does not vulcanize to the same extent, at all times, with the same amount of heat and length of time?

The subject was discussed at considerable length by Drs. Jones, Blake, Payne, McCoy, Peebles, Hovey, Morse, and others; after which the committee, appointed for that purpose, reported a constitution, which was read, and on motion, unanimously adopted.

A committee of five, composed of Drs. Peebles, Samuels, Tindall, Blake, and McCoy, were appointed to nominate permanent officers.

On motion, adjourned to half-past 2 o'clock.

Association met pursuant to adjournment. Committee reported names for officers, as follows: for President, H. J. McKellops; for 1st Vice-President, G. S. Morse; for 2nd Vice-President, M. McCoy; for Recording Secretary, H. Judd; for Corresponding Secretary, J. Payne; and for Treasurer, A. M. Leslie,—who were duly elected.

The Chairman appointed Drs. Leslie and Forbes to conduct the President, elect, to the chair.

After some very appropriate remarks by the President, on motion of Dr. Forbes, the Nominating Committee were requested to nominate an Executive Committee of three, and Drs. Blake, Sloan and Samuels were nominated and duly elected.

On motion, Dr. Leslie was requested to furnish a synopsis of the proceedings of the Association, for publication in the Dental Journals. After a short discussion upon the use of arsenic for killing nerves, the Association took a recess to allow members to sign the constitution. and thirty-six members subscribed their names thereto. Association again came to order and resumed the discussion. After a spirited discussion of some length, by different members, the Association adjourned to half-past 7 o'clock.

Association met at half-past 7 o'clock, and was called to order by Dr. Morse, Vice-President. The subject of exposed pulp was taken up and discussed at some length, after which there followed a discussion upon vulcanized rubber.

The Executive Committee reported, as a subject for discussion, Periostitis. After some remarks by Dr. Samuels, on motion of Dr. Leslie, it was ordered that to-morrow forenoon be set apart for clinics.

On motion of Dr. Peebles, the Executive Committee were empowered to fill the vacancy in said committee, occasioned by the absence of Dr. Blake. Committee appointed Dr. Peebles to fill said vacancy.

The subject of Periodentitis was resumed and participated in by Drs. Eames, Judd, and others, after which the following resolution was offered by Dr. Payne:

Resolved, That it is the sense of this Association that no no man is justified in taking a student for a less time than two years, and then only when such student pledges himself to graduate at a Dental College before engaging in the practice of dentistry.

After remarks by Drs. Sloan, Forbes, Clark, and Payne, followed by an able speech from Dr. Peebles, the resolution was unanimously adopted.

The Executive Committee appointed Drs. Forbes, McKellops, Peebles, Payne, Eames, and Barron, to operate at the clinic in the presence of the other members of the Association. Adjourned to 2 o'clock, to-morrow.

Association met at 2 o'clock, P. M.; President in the chair; minutes of last meeting were read and approved.

On motion, Drs. McCuen, Payne, and Jones were appointed a committee to report upon the subject of vulcanized rubber, at the next annual meeting of the Association.

On motion of Dr. Blake, Dr. Spyer was requested to read a paper on "The effects of Disease on the Teeth." The essay having been read—on motion of Dr. Peebles, Dr. Spyer was requested to furnish a copy for publication, with the proceedings of the Association.

Letters were read from Drs. J. A. Price, of Weston, and J. F Hassell, of Lexington; when, on motion, Drs. Leslie, Hovey, and Read were appointed a committee to nominate delegates to the American Dental Association. A recess followed to allow members time to examine instruments presented by Dr. McKellops and others.

Upon coming to order, it was agreed, on motion of Dr. Morse, that when the Association finally adjourns it shall do so to meet at St. Louis, on the first Tuesday of June next. On motion, adjourned to half-past 7 o'clock, P. M.

Association met pursuant to adjournment. Minutes of last meeting were read and approved.

Dr. McCoy introduced, as a subject of consideration, cases of extreme absorption of lower jaw, and enquired the best method of retaining, under such circumstances, a lower piece in situ.

After remarks by Drs. McKellops, Payne, Hovey, Spyer, and McCuen, the regular subject for discussion, "fang filling," was resumed and discussed by various members. The following resolution was offered by Dr. Clark, and was unanimously adopted:

Resolved, That the thanks of this Association are due, and are hereby tendered to Dr. H. E. Peebles, for his constant labors to effect a full organization of the Dentists of Missouri into a State Society; he having commenced this labor as early as July, 1864, by extensive correspondence and consultation with members of the profession.

On motion of Dr. Forbes, it was ordered that a suitable preamble be prefixed to the resolution, and that it be written in a plain hand, and placed in a neat gilt frame, and signed by the President and Recording Secretary, and presented to Dr. Peebles as a testimonial of the appreciation which the members of the Association have for these services.

The Nominating Committee presented the following report: Your committee, in nominating delegates to the American Dental Association, would respectfully propose the appointment of the following gentlemen:

J. K. Stark, Independence, Mo.; Edward Hale, Jr., St. Louis, Mo.; T. W. Reed, Macon, Mo.; J. S. Clark, St Louis, Mo.; E. Hovey, Springfield, Mo.; E. McCuen, Lauinana, Mo.; Geo. Crawford, St. Louis, Mo.; G. W. Tindall, Kansas City, Mo.; H. Judd, St. Louis, Mo.

A. M. Leslie,
T. W. Reed,
E. Hovey,
Committee.

The report of the committee was received, and the gentlemen named in the report duly elected as delegates to the American Dental Association.

On motion of Dr. Forbes, the subject for discussion at the evening session be "Why have we failed to preserve teeth." On motion, adjourned to half-past 7 o'clock.

Association met at half-past 7 o'clock. President in chair. Discussion of considerable length upon the subject presented by Dr. Forbes; when, on motion, it was resolved, that the Executive Committee be requested to lay out a series of subjects for discussion at the next annual meeting of the Association, and place the same in the hands of the Corresponding Secretary to be printed, and copies to be mailed to each member of the Association.

On motion of Dr. Forbes, the Executive Committee was authorized to draw on the Treasurer for funds to defray the expenses of the meeting.

President appointed Dr. Park a delegate to the American Dental Convention.

On motion of Dr. Morrison, a subscription was ordered to be opened for the *Dental Register*; after which, the following resolution was adopted by Dr. Hovey:

Resolved, That the thanks of this Association are due, and are hereby tendered to Drs. Forbes, McKellops, Peebles, Payne, Eames, and Barron, for their courteous consideration and gentlemanly bearing towards the members of the Association, in kindly opening their offices and tendering their services, not only in the clinical exhibition thus afforded us, but also in their readiness to impart any and all professional information at their command.

On motion, the above resolution was unanimously adopted.

On motion, Association adjourned to meet in St. Louis, the first Tuesday in June, 1866.

H. JUDD, *Rec. Sec'y.*

Editorial.

ACKNOWLEDGMENT.

Some three months ago, the Ohio College of Dental Surgery received of Dr. A. Preterre, Paris, France, a liberal contribution in the form of six beautiful, interesting and instructive preparations, exhibiting various deformities of the mouth and continguous parts, together with the methods and appliances for remedying the same; the latter of which exhibited a great degree of ability and tact, in that direction. They were examined by, and elicited much admiration and interest, from the members of the Dental College Association, recently in session. The preparations were each explained by Dr. McKellops, of St. Louis, recently of Paris, who had enjoyed the privilege of Dr. P.'s personal explanations, and saw some of the appliances in actual use in the patient's mouths. We here give Dr. P.'s written description of the different pieces:

The 1st is a head, representing the loss of the right ascending branch of the lower Maxillary, with two artificial pieces remedying the defect. The upper piece is intended to oppose itself to the approximation of the superior Maxillary, when any part of the lower Maxillary is deficient.

The 2nd represents the loss of one of the superior Maxilla, with rigid palate; the wearer of this fixture has obtained a most perfect articulation of sounds, smokes, eats and drinks, as well as any one. The pieces has now been in use ten years. The inspection of this piece must modify, considerably, the opinions expressed on the utility and absolute necessity of a flexible velum, since a perfect articulation is obtained by a rigid palate.

The 3rd represents the loss of a portion of the nerve, and the piece repairing the loss.

The 4th represents the deviation or approximation of the upper jaw when the lower Maxillary is absent. It is to overcome this difficulty that we have invented the apparatus above spoken of. The cast was taken from an old soldier.

The 5th is a case in which the entire tongue was removed by an operation. It is remarkable, that the absence of the tongue produces the same deficiency in pronunciation as the loss or absence of the palate. The appliance, or artificial tongue, gave very satisfactory results.

The 6th represents a most complicated case of cleft palate, with about three fourths of an inch anterior projection of the central incisors, with their alveolus. This projection was removed entire, and an artificial palate, with teeth, applied; and after proper training, the issue was very satisfactory.

There is material in these preparations for study and investigation.

The thanks of the College, and all interested in it, is certainly due to Dr. Preterre for this valuable presentation, and also to Dr. McKellops, for the effort which he exercised in giving this contribution its direction thitherward, and for the interesting manner in which they were explained by him to the Association.

NASHVILLE DENTAL SOCIETY.

The dentists of Nashville and vicinity, organized a society in October last. The meetings are held on the second Tuesday of each month. All its members are wide awake men, and will produce good results in this effort.

The officers are, Dr. W. H. Morgan, Pres't; Dr. S. J. Cobb, Vice-Pres't; Dr. J. C. Ross, Recording Secretary; Dr. R. Russell, Corresponding Secretary.

It is very desirable that all over our country local societies be formed, at the earliest possible period.

CENTRAL OHIO DENTAL ASSOCIATION.

The regular annual meeting of this body, was held on the 8th of May, at Mt. Vernon, Ohio. This is a live society—its members are all earnest, industrious workers for the good of the profession. Several prominent subjects of general interest were taken up and discussed, and such action taken as will tend to push them on to the desired ultimatum. And not least among these was the procurement of a law, that shall protect the people against dental charlatanism, and stimulate the members of the profession to make greater advances in their ability to do good. The society increased its membership largely. Its operations must result largely for good, for it embraces a field that has been almost entirely shut out from the advantages of association, chiefly because of locality. This society will revolutionize the profession in the central and south-eastern part of the State, and that very soon too.

The semi-annual meeting is held in Zanesville, on the second Tuesday of November next, when there will, we doubt not, be a large meeting.

CENTRAL STATES DENTAL ASSOCIATION.

The semi-annual meeting of this society, was held in Nashville, Tenn., on the 10th of April. Its sessions continued three days, evening sessions were also held. There were about forty members of the profession present, all of whom seemed to enjoy the meeting very much.

We have scarcely been present at any professional gathering, where so much interest and earnestness was manifested as here. Nearly all engaged in the discussion of the topics presented. Our brethren in that section of the country, are almost wholly absorbed in professional matters, and manifest a determination to move on in the direction of progress, fully abreast with any others; and now that anarchy is removed, and order reigns in our country, our whole brotherhood will move on as a united band, pressing forward every enterprise and object that shall tend to develope and establish our noble profession.

We shall give the proceedings and discussions in the next number of the *Register*. The next meeting of this association will be held in Louisville, commencing on Tuesday, the 17th of July next, when, we doubt not, there will be a large gathering of the profession.

MISSISSIPPI VALLEY ASSOCIATION.

At the last annual meeting of the Mississippi Valley Association of Dental Surgeons, an award of two gold medals, the value of each to be one hundred dollars, was offered for the most valuable essay upon the subject of Alveolar Abscess and Diseases of the Antrum. Competition for the above awards is not to be confined to the dental specialty alone, but to all regular practitioners of medicine. It is expected that a large number of essays will come before the Committee on Awards, as the subjects given are very important ones, and the field for investigation extensive. The following are the regulations by which competitors and the committee are to be governed.

1st. That essays competing for the prizes, must be placed in the hands of the committee as early as January 1st, 1867.

2nd. That the committee have power to reject all essays presented, if regarded as unworthy of the award.

3rd. That essays be promptly disposed of by the committee, as directed by the authors.

4th. That when the committee has made the award, the approved essay be sealed up, and thus preserved till the committee report to the Association, when it and the envelope containing the author's name are to be opened.

5th. That the copyright shall belong to the Association.

6th. That the committee shall not permit any one to inspect or see the copy of the essay, till after making a report to the Association.

Resolved, That all dental and medical Journals be requested to publish the proposition of this Association, to award the various medals mentioned in the proceedings of this society.

Essays must be sent to Dr. Geo. Watt, Xenia, Ohio, chairman of the committee.

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Original Communications.

FILLING TEETH.

BY J. TAFT.

It might seem, at first thought, that the subject of filling teeth had been completely exhausted—the whole ground thoroughly canvassed, considered, described and illustrated.

There has not, however, been much written on this subject for two or three years; this, perhaps, occurs from the supposition that there is little or no progress being made in this operation, such a supposition, however, is far from being correct; there *is* great progress being made, it is shown in two aspects. And first, there is in the profession a general and rapid diffusion of the most approved methods of filling. Many in the profession have, within a short time, made such advances as compel them to admit that the former methods and knowledge were comparatively of little worth. There is a continual progress being made in almost every particular in this operation.

Again, with those who have been regarded as occupying the front rank, there is a continual advance; perfection is not yet attained by any. Which of these two is the more important we will not now attempt to determine, but shall rest satisfied when both go on unobstructed. Progress in this operation, is usually made by an almost imperceptible attainment of things apparently small; these however, in time, being aggregated, revolutionize old methods. In the ordinary plain cases of filling, even those at which the great majority suppose themselves adapts, there is by the present modes almost an entire revolution. A few years ago, the property of cohesion in gold foil, rendered it worthless as a material for filling teeth; now, in the hands of many, it is regarded as indispensible, and to secure it to the greatest degree is a much desired desideratum.

Filling instruments, too, have passed through successive changes, so that now, those of ten or twelve years ago would be regarded as wholly wanting in adaptation. The change in these has been very gradual, and so slow as to be almost imperceptible; yet, let observation extend through ten years, and how marked the change. The great majority of such changes and improvements have been made without any very minute description of them having been made public, either by the pen or tongue, Such things are usually brought into general notice incidentally.

We propose, here, only to notice two or three things in regard to filling teeth, having more particular reference to those cases usually regarded difficult. There are cavaties, large and superficial it may be, and so situated that some operators, and even good ones too, find it difficult to introduce fillings that will be retained. In all such cases there is, on the part of the operator, either carelessness or a want of knowledge and skill, in reference to forming cavities. There is no cavity liable to occur in the teeth, that is not susceptible of being so formed as to retain, firmly, a filling properly introduced. In any cavity, the grooves and anchorages necessary to secure this end, may be made by the diamond point excavators, and the square edged drills. In speaking of fillings that are not retained, we have reference to those in which fillings are disdisplaced because of insufficient anchorage, and not of those fillings which have been lost by additional decay: an example will illustrate.

Recently, a girl twelve years of age, had the left superior lateral incisor filled, on its anterior proximal surface, medium sized cavity, easy of access, with material enough for perfect anchorages, with gold, five times in four months, by an operator who has had a large reputation; and after the filling had fallen out the fifth time, every side and wall of the cavity was converging and smooth, not a vestage of undercut or anchorage any where. In the intense perseverance manifested to succeed, we were reminded of the man who engaged to throw his companion across the river.

For the secure attachment of very large fillings, where a portion of the tooth is broken away, and the part to be built up, or where a large filling is exposed to great pressure in mastication, to insure permanency, in addition to the pits and grooves already mentioned, slits or dove-tails, one or more may be made in the standing portion of the tooth, at such points and in such directions as will not weaken it, these are perfectly filled by anchorages from the main filling, and if properly employed, are of incalculable value in many cases; their greatest advantage, perhaps, is where the entire crown surface is to be added.

And just here another point is presented. It sometimes occurs in large crown cavities of molars and bicuspids, that the edge of the wall is thin and liable to be broken, if not in the operation, in the act of mastication; such edges are often left, the operator filling up to them as best he can, hoping they may stand and do good service; but in the great majority of cases, the tooth will either break away in fragments, leaving the surface rough and unpleasant to the patient, and serves as a lodging point for the foreign substances. In such cases the thin edges should be filed down, from one-sixteenth to one-eighth of an inch, the filed surface having an outward bevel, so that the gold, when built over it, may have a firm embrace upon it, and protect it most completely. The cavity is filled as usual, the gold built up, restoring the original form, and articulating surface of the tooth; by such method there is no comminuting or fretting away of a friable or weak wall, under ordinary pressure upon the filling, but the tooth is held the more firmly together.

(To be Continued.)

DENTAL EDUCATION.

BY W. H. GATES.

Read before the Central States Dental Association.

Gentlemen:—The dentist, like other men, is in search of happiness. His vocation affords him either real or fancied pleasure. It can be real only as it is reciprocal. Dispensing good, it is reflected back into his own heart and life. Governed by impulses or opinions, true or deceptive, he pursues that path by which he hopes to realize success.

As water, on the dividing ridge, flows one way to the Atlantic—the other to the Pacific, so he may approach the east for light, or, guided by intuition, make his own path as a pioneer through the primitive shadows of the forest.

Along one route he approaches with diffidence, for the light reveals to him his defects, and he struggles with difficulties that are truly formidable; but inspired by the love of truth, now flashing round him, his energy arises with his ardor and he scales them with a perseverance, skill and power that surprises himself and excites the admiration of others. As he advances, time brings to him its true rewards—fewer thorns, more flowers appear—fortune extends her favors and fame, aye, good substantial fame will bid him welcome.

On the other side you see the man who trusts, as he says, in his "natural genius." As his face is turned from the light he naturally sees his own shadow, and generally, somewhat magnified. If he sees aught else, it is a vision of gold—some California which he doubts not soon to reach, by *a short route.*

For a time he is flattered by success. But his assurance is like the complacency of the invader; he has tread upon sacred ground and trifled with the misfortunes of his fellows. They recoil upon him; he can only proceed by strategy. He must appeal to prejudice, and rely upon ignorance to shield him, or fly to another field. In this manner, by a succession of movements, or devices, he *may* realize his golden vision, for even "the wicked shall prosper." But what then is his fame, and where his real happiness? He has made speculation of misfortune, and trifled with inestimable jewels—the gifts and handiwork of God. Can such reckless sacrilege bring peace of mind? Sooner will the thief his gains enjoy. He simply takes the purse, but this arch villain under the guise of good, makes robbery of jewels also, which the highest art or the most boundless wealth can not truly replace.

This association has honored me by placing in my hands a theme of such great weight as Dental education. But it was simply a mistake, for it is a mountain I can not measure—a sea, the pearls of whose depths I can not bring to light; but if, by a few surface thoughts, I can inspire one wavering brother to search in its bright waters, I am content.

Education is unquestionably the basis of all true excellence in the practical as well as theoretical employments of life; for it places at the door of each the compiled, invaluable experience of the past and present.

All truly worthy men, it may be said, however great or various their talent or skill, are modest and deferential. They respect the opinions and experience of others. Such men have met here to-day, and whether that experience be bound up in book form, as the legacies of those who, though dead, yet live in them, or whether it fall upon his ear to-day from living lips, they deem it a great privilege. And such it is, for here, avoiding the tedious and consuming labor of personal experience, we can start from that higher point to which they have attained, and rise higher and still higher in the scale.

Thus education, or science, which is simply a systematic collection of facts, is of the very first importaance to Art which is confined strictly to exemplifying or appropriating those facts in practice. If then, education comprises the benefits of experience and those already collected facts the knowledge of which constitutes our reputation and directs our skill who does not covet it? Who would not make his mind a storehouse of science that it might be ready at any time when called for? How humiliating, after permitting ourselves to be called "doctor" which signifies "learned" to be obliged to acknowledge or even feel that we are *not* learned—not able, it may be, to explain to our patient some simple principle which, as a cause, has produced injurious effects.

Let us then consider some of the benefits that accrue to our art from education. Education is knowledge, and its pursuit, by the exercise of our senses. If the eye brings us knowledge by what we see, so the ear by what we hear. The five senses are but as so many individuals thirsting for knowledge, and each, to a great extent, independent of the others.

That consideration which I esteem of the first importance in our art is skill. Talent is a gift, but skill is the child of education. It is the inseparable product of two of our senses. The eye measures, classifies, adjusts, directs; the touch executes. Now in proportion to the science in the eye, and the art in the hand, will be the beauty and perfection of the skill which they produce. But if the eye, which communicates the science from the brain—the storehouse of fact—has no storehouse there what of the art? It is like an eagle without a head—an army without a general—floundering in blood and chaos.

Science and art must go hand in hand to attain true success in our profession. Science is like the engine standing with its train of precious freight, ready to fly away to its destination; but art is the power and motion that will carry it there. If the science is good there will be no explosion—no uncoupling—no running off the track—nothing lost over-board. All is safe and happy, and, from his destination, the passenger looks back with rejoicing and gratitude for the benefit he has received.

Among the other benefits which science, as education is commonly understood to signify, confers, is consideration. Sensible people necessarily set a high estimate upon those organs that so greatly involve their comfort, health, personal appearance and pleasure. They will not, knowingly, permit them to be trifled with; and he who will truly qualify himself, by all the means attainable, to preserve their beauty and usefulness, will learn and other things being equal, will obtain, not alone a *monied* compensation but that delightful gratitude which a true service rendered always inspires.

Your reputation, too, will be like a genuine bank note with science and art modestly, but most beautifully interwoven on its face.

The people will take it up and circulate it until you can hardly supply the demand for that *real* coinage of your skill which they esteem more valuable than gold; for they feel that you are giving them not only the benefit of your own and the experience of others in the past, but in the present, by constant communication with the world's advancing thoughts and discoveries.

Thus as an exponent of good deeds and purposes, and crowned with honors and, thus far, with that true happiness for which we seek, the educated dentist is triumphant on the road to fortune and true fame.

But without this science your note is counterfeit. It is not beautiful; it is not attractive. And, though it sometimes passes in strange places, for want of a close examination, yet it will be treated with suspicion and finally be returned with imprecations on your hands. Shall I picture the end of such a man? He deserves not our notice, let us draw the veil over his obscurity.

But, to be brief, you say, how shall we obtain this education? Oh! how is any great or good end secured but by *earnest effort.* Every true man has in his breast, a sublime courage that rejoices in the conflict with difficulties. But you are not left single-handed in the struggle. *That* is your trouble now. You are attempting to accomplish *without* assistance that which is difficult indeed, by *united* effort. Come, then, and unite with use. We will encourage, enlighten and sustain each other. Look also upon the shelves of science. There are our master-spirits with the free offering of the accumulated treasures of their life-long labors.

Look again, in your own Great West, where a Cincinnatus was remembered, or, on the Eastern Slope where a Franklin was buried, or, where, in the foundations of the first temple to our art, the bones of Harris molder—there, like constellations of beacon lights swung out in the realms of mind, are *living* lips—eloquent—almost radiant—with truth and light.

There build the true, solid foundation, and you will sooner or later, bless the day that gave you the resolution.

Finally, let me implore you, if you would reach the Calafornia of true, *enduring* wealth, hesitate not to stem the deep waters, or to struggle over the formidable heights of the isthmus of science.

Louisville, April 9, 1866.

DENTAL EDUCATION AS CONNECTED WITH DENTAL ASSOCIATIONS.

BY DR. S. D. STEWART.

Read before the Central Ohio Dental Association.

"That which is worth doing at all is worth doing well." A hoary axiom, yet how true. How just in all its bearings and signification in relation to all the various and multiplied vocations of man. Equally just and true is it, whether applied to the ruler or the subject, the philosopher or politician, the mechanic or professional man. Everything, to give just remuneration and satisfaction to the parties concerned *should* be done well; as well as intelligence, a sense of justness, and a conscience will dictate. And in what manner and by what means can the justness and signification of the proverb be attained?

To be truly successful is to "do a thing well;" to "do a think well" is to fully understand the vocation adopted; to fully understand *any* legitimate vocation, is to be educated thoroughly in that vocation. Therefore, education is a necessary and indispensable attribute or concomitant to success in any vocation. And (Mr. President and brothers) is it not true professional success we aim at? Should it not be our goal? Is it not education, then, we so much need? Or are there members of our fraternity who have reached the climax of learning, and are perfect? The man who cannot always learn, although he be considered one of the "leading lights" of his profession, needs our sympathy. He will not long be a "leading light," if he does not keep pace with the advancing knowledge and improvements of his profession. Is it not education, *continued* education we so much need? Dental education? In what way can we more profitably and pleasantly pass a few hours or days; in what way can we most cultivate that feeling of friendship and friendly emulation, stimulants to progress and advancement? In what way can we be made to be co-workers together for the advancement of the profession we represent, and be made to feel that we have a common interest in its advancement, and upward growth, than by meeting together and discussing in a friendly and courteous manner the various topics that pertain to the elevation of the profession and our own interests personally? I say in what way can it be better accomplished and more easily attained than by encouragement and free support to the associations forming, as well as those which are formed? We meet as an association for what? To accomplish in part at each session that for which the association was formed. It will be purely beneficial in its results to each member individually and to the members collectively if sustained and encouraged in the right spirit. It will do away with cold hands and hearts, frowning faces and the passing by of each other without the proper salutation; and instead thereof we will have the warm friendly grasp and welcome; the smiling face and brotherly salutation when we meet.

An association of a true character *does not* encourage a feeling of enmity and hate, and uncharitable rivalry, the rightful subjects of ignorance; but on the contrary we meet as brothers having a common interest at stake; entertain a more charitable feeling, and emulate each other in the spirit we should. The principle object or duty of an association then is to EDUCATE, to INSTRUCT. Then may we not encourage and freely support Dental Associations? In so doing we encourage the most important element of success. For without education what would we be as a profession? What would we be as a nation? Education stimulates to higher and nobler acts, and purer motives; it elevates the savage to a state of civilization; the empiric to that of a true professional man.

Dental education will elevate the profession to that of its kindred professions. With it, it will soar in its true sphere; without it, it will as a natural consequence of darkness, relaps, or stand in that state in which it should, that of an ignoble profession.

We do not want to be cobling or tinkering, as it were, at our profession, but we want to make rapid strides, and speedily become a recognized and a true profession. We weary of being goaded on, we have a dislike to be stirred up so often upon one thing, and yet at the same time that one thing may be the "*one thing needful*" the only weak point of our great enemy—ignorance—and through whose lines, by a stragetic movement we may break and come out victorious, and the title "D.D.S." (apparently) mean more and shine brighter than ever before. And yet we hate to be stirred up and will *not* give the support we should to the *only things* that will strengthen and give us the victory. Truly, truly, we are standing in our own light, we grasp at the shadow not the substance. If we do not follow the bright beacons far ahead the result will be direful. If we do not add strength to the links of the great chain encircling and supporting our profession it will become weak, and like a rope of sand, fall of its own weight. Let strength be added to each link that it may become as a chain of steel—inseperable. Let each link added to the still increasing chain be purified and a brighter one; let it be like unto a chain of gold, "*purified in a furnace of fire seven times.*"

In view of these facts, then, are we not *all* ready to admit that Dental Associations *educate* and act as fulcrums to that powerful lever which alone can raise us to that high standard upon which all true workers will rejoice to see us placed?

Dental Associations may be the *alpha* of our education, but it has no *omega*. When the title of "Doctor-of-Dental Surgery" has reached its highest signification in a practical as well as literal sense, may the memory of those who have been so instrumental in their labors to attain that end, in the language of the Poet:—

> Flourish in immortal youth,
> Unhurt amid the war of elements,
> The wreck of matter, and the crash of worlds.

NITROUS OXIDE FOR DENTAL ANÆSTHESIA.

BY DR. A. W. SPRAGUE, BOSTON, MASS.

That nitrous oxide is and has been successfully employed as an anæsthetic, no intelligent person will deny. Is its use practical? This is the question. After four years of practical systematic experimenting on the chemical, physiological and anæsthetic properties of this gas, I am thoroughly convinced that, with proper appliances and skill, it is cheapest, most healthy, and most convenient agent for brief anæsthesia, yet devised.

Opinions upon all practical subjects vary with experience. One dentist with a whiskey cask for a washer and holder of the gas, and a filthy three gallon inhaling bag and wooden mouth-piece for administering it, writes out an elaborate opinion, stating that nitrous oxide is not only very expensive—will not keep—but is attended with unpleasant results in many cases where it has been administered. Another says he has used a "very convenient" arrangement of *three one-half gallon* washers, (?), and a rubber bag for preparing the gas as wanted, but finds the physiological effects in many cases decidedly unfavorable; the patient in some cases partially chooking, with a subsequent tendency to cough. Another, a very learned chemist, who has read Sir Humphrey Davy's partial researches, with a very rude apparatus, but has never made or used it himself, thinks nitrous oxide not safe,—sees funeral trains, open graves, and untold horrors, as the necessary concomitant of anæsthesia by this gas. A fourth, who has prepared the gas at a moderate heat, washed it thoroughly, confined it in a proper receiver over water, and given it pure from the same, tells us, that of some three thousand cases where he has employed it for anæsthesia, (in some protracted to twelve and fifteen minutes), he has never had an unfavorable result, and believes nitrous oxide the safest and cheapest anesthetic he has ever used. Thus, opinions of this agent, vary according to the means and skill employed.

With improper appliances no agent suffers more by attempts to use. The process of preparation is a chemical process, and for economy and safety, must be conducted on chemical principles. The inhaling must be in accordance with physiological laws. Outrage of either these and nature will rebuke the same.

No anæsthetic and therapeutic has struggled against such odds of ignorance and abuse, and yet lived.

The great mass know little of this agent except by the result of inhaling and what they are told by the profession. Many who advise know only a few mechanical details. One operator makes a crude, semi-poisonous compound, to which he perhaps adds, in administering it, the horrors of partial asphyxia. To nitrous oxide, not to the admixed, chlorine, carbonic acid, etc., given it by the operator, is charged the headache, strangulation and cough which may result.

An itinerant lecturer upon nitrous oxide, recently told us, that once when he had gathered an audience to witness the effects of gas, his rude apparatus failing him, he retired to a side room, filled his bag with air, gave it, produced the desired delirium, satisfied his audience, and heard no serious results from the deception except *a little subsequent headache* to the victims.

For anæsthesia, nitrous oxide should be made from the purest nitrate of amonia, the gas thoroughly washed by *straining* through several separate glass strainers, and then kept in a proper holder over water. In this way it may be retained good for use for six weeks. The inhalation should be direct from the gas holder by means of a proper valve inhaler, so that no carbonic acid or respired breath can be re-inhaled. In this way perfect anæsthesia, *with less gas*, may be produced, while the results will be far more satisfactory, than where cleanliness is outraged and the patient half asphyxiated by breathing the excretions from his own and other lungs in a small confined bag,—we state facts. Some forty dentists of Eastern Massachusetts have adopted the pure gas process, and all concur in the above opinion we have expressed.

EXTERNAL PERIOSTITIS.

BY HENRY S. CHASE, D. D. S., IOWA CITY, IOWA.

This is an affection located on the gingival portion of the alveolo-dental periostuem. It is that part which surrounds the neck of the tooth, and usually covered with the gum, a little below its free margin.

DIAGNOSIS.—Parts mentioned, very sensitive to the touch, also to cold air or cold water. The extent of the sensitive portion does not exceed a line in width. *Decay*, situated at this portion of the tooth, will produce similar symptoms; but in this disease there is no decay, the parts are not disintegrated in the least. The prognosis is favorable, render proper treatment. Without treatment it continues for weeks and months, and many cases that have come to me have requested extraction. But this is unnecessary—a cure is certain in a few days under the following treatment: *Paint*, with a slender pointed quill tooth-pick, the inflamed part with pure creosote, every morning, or once a day until cured. Three or four applications will seldom fail to cure, and sometimes a single one will do.

This is a very annoying complaint, and one which I do not remember seeing "in the books." This short paper on the subject was suggested by the enquiries of a brother practitioner, not knowing how to cure the disease, and being surprised when informed of the simple remedy. Perhaps some others may be benefitted by reading *this*.

Proceedings of Societies.

PROCEEDINGS OF THE CENTRAL STATES DENTAL ASSOCIATION.

The first semi-annual meeting of the Central States Dental Association, was held in the city of Nashville, Tennessee, on Tuesday, Wednesday and Thursday, April 10, 11 and 12, 1866.

FIRST DAY—FORENOON SESSION.

The society was called to order by Dr. W. H. Morgan, the President. The minutes of the previous meeting were read;

and the roll called, when the following members answered to their names:

Drs. W. H. Morgan, Pres't; W. G. Redman, Vice-Pres't; W. H. Shadoan, Sec'y; R. H. Wilson, Treas'r; John Ragland, J. H. Bedford, Jas. L. Nourse, Geo. W. Field, L. E. Wilson, S. J. Cobb, Geo. S. Jones.

Dr. S. J. Cobb being the only member of the Executive Committee present, Drs. R. H. Wilson and J. L. Nourse were appointed to fill vacancies.

The entire Committee of Membership being absent, the President appointed Dr. W. G. Redman, Dr. G. W. Fields, and Dr. L. E. Wilson, to fill said committee.

The Executive Committee then made the following report, which was adopted:

We, the Executive Committee, beg leave to make the following report:

1st. Reading of Essays.

2d. The best means of improving the practice, and elevating the profession of dentistry.

3d. Anæsthetics—their proper use and relative value.

4th. Extracting Teeth — when and under what circumstances should it be done.

5th. Absorption of Alveolar processes—causes and treatment.

6th. Filling Teeth—the relative value of different materials, and the mode of operating in different cases.

7th The best method of obtaining correct impressions, and models of the mouth.

8th. When, and how should the different materials be used for artificial dentures.

9th. Neuralgia—what is it, and how should it be treated?

10th. Miscellaneous Business.

S. J. COBB,
R. H. WILSON,
JAS. L. NOURSE,
Committee.

On motion, the hours for meeting shall be from 9 to 1, from 3 to 5, and from 8 to 10 o'clock, each day—adopted.

On motion, adjourned to meet at 3 p. m.

First Day—Afternoon Session.

President, Dr. Morgan, in the chair. Minutes read and approved.

The Committee on Membership reported the following gentlemen, who were elected members of the Association:

Dr. J. Taft, of Cincinnati, O.; Dr. E. Q. Naghel, of New Albany, Ind.; Dr. R. Russell, Dr. J. C. Ross, Dr. J. M. Buckley, Dr. L. T. Gunn, Dr. E. A. Herman, of Nashville, Tenn.; Dr. A. Hartman, Dr. Thos. Walch, of Murfreesborough, Tenn.; Dr. John Fouche, of Knoxville, Tenn.; Dr. F. W. Garkey, Memphis, Tenn.; Dr. J. T. Noel, Galattin, Tenn.; Dr. C. P. Baird, Winchester, Tenn.; Dr. T. E. Beech, Franklin, Tenn.

The election being over, Dr. Taft offered the following resolution, which was adopted:

Resolved, That the Physicians and Surgeons of the city of Nashville, and vicinity, are hereby cordially invited to be present at the sessions of the Central States Dental Association, now being held in this city, at Steadman's Hall, Cherry Street.

A paper from Dr. Gates, of Louisville, Ky., entitled "Dental Education," was presented, and read by the Secretary.

On motion of Dr. Redman, the paper was received and filed.

The subject of the paper being the first subject for discussion, it elicited considerable remarks from nearly all present; and all seemed to deeply feel the importance of a thorough dental training, both as a protection to dentist and patient.

On motion, adjourned to 7½ o'clock, p. m.

Evening Session.

Minutes read and approved.

The subject of dental education was then taken up and further discussed.

During the remarks on dental education, Dr. Taft made mention, that the people and dentists of Ohio had petitioned the Ohio Legislature to pass a law making it a misdemeanor for any one to practice dentistry, in that State, unless he be a graduate of some Dental College, or undergo a satisfactory examination by a board of dentists, appointed by the Governor for that purpose, or having had a successful practice for ten years or over.

(The Doctor did not say whether or not, the law to be passed, required them to practice the ten years in the State of Ohio,—*Sec'y.*) The Doctor was very confident it would pass, at the next session of the Legislature, and become a law.

The idea of Ohio passing such a law, created quite a stir among the Kentucky and Tennessee dentists, as they were not friendly to the sending of all the *Quacks* from Ohio to these States. They felt that they had enough now; and to prevent others from coming, as well as to get rid of some of those they now have, they determined to set about the work of having a similar law passed in their States.

On motion, the next subject, Anæsthetics, was taken up and discussed at some length.

All concurred, that it was best to use as little chloroform as possible.

Adjourned to meet at 9 a m., to-morrow.

SECOND DAY—FORENOON SESSION.

Minutes read and approved.

On motion of Dr. R. H. Wilson, that the minutes be so altered as to read, that chloroform should be used with great caution—carried.

On motion, the 4th subject " Extracting Teeth," was then taken up, and discussed.

On motion, the next subject was then taken up, "Absorption and reproduction of Alveolar process," and discussed.

Some of the members were of opinion, that the reproduction of bone was a matter in theory rather than practice, and seemed to think that no such thing could be done.

Dr. Taft occupied the time for some minutes, in showing how such a thing was done, which he did in a very clear and forcible manner. He showed that the reproduction of alveolar process, was not only possible, but practicable, and that to his own knowledge, it had been done, not only once, but divers times.

Dr. R. H. Wilson, made some explanation of his views of what was contemplated in the subject. That when any part of the alveolar process was entirely gone, that it could not be restored. But when the destruction was only partial, that it might be done.

Here, Dr. S. J. Cobb introduced Drs. Meenes, Beaty, and Du Pree. On motion of Dr. Cobb, these gentlemen were invited to take part in the discussions—carried.

The President announced the following essayists for the next meeting:

Dr. E. Q. Naghel—Importance of preserving children's teeth.

Dr. Fouche—Creosote, its value, and uses in dentistry.

Dr. Baird, of Winchester, Tenn.—Duties of patients and dentists to each other.

Dr. Garkey—Improvements in Dentistry.

Dr. Shadoan—How to obtain an appreciative and remunerative practice.

Dr. Nourse—Alveolar Abscess.

Dr. Redman—Specialtics in Dentistry.

On motion, when we adjourn, we visit the tomb of Ex-President Polk, in a body.

Adjourned to meet at 3 o'clock, p. m.

Second Day—Afternoon Session.

Minutes read and approved.

The subject of absorption was again taken up, and on motion, it was passed by for the present, to be taken up at some future time, and the 6th subject was taken up—nearly all present taking part.

Dr. Naghel was of opinion that of all cheap materials, amalgams and tin, were the best. He has two fillings in his teeth, (one tin and one amalgam), that were put there when he was only ten years old, in 1837.

On, motion, the Physicians of the city be requested to meet with us this evening, and take part in discussing the subject of absorption and reproduction—carried.

Adjourned to meet at 8 o'clock, p. m.

Second Day—Evening Session.

Minutes read and approved.

The subject ot absorption and reproduction being again taken up, Dr. Taft spoke at some length. His remarks were of deep interest, and produced a fine effect. He recommends phosphate of lime in difficult dentition, as well as in the reproduction of processes.

The subject being pretty well ventillated, it was discontinued, and the next subject, filling teeth, resumed.

Dr. Garkey—In case of destroying the pulps of the teeth, does not carry it to the same extent he once did. He applies arsenious acid for a few hours, then removes pulp to fangs of tooth, and leaves the nerve in fangs. If they bleed freely, so much the better. Applies a little collodion on cotton, and places it on the bottom of cavity, and lets it remain for three or four days, when he generally finds the membrane nicely healed over; then plugs as usual.

Dr. Shadoan—thinks Dr. Garkey's practice, in such case, good. Where a tooth, say a second superior molar, is decayed on the posterior lingual surface, near the gum exposing the nerve, he drills a hole into the pulp through the centre of the masticating surface of the tooth, and enlarges freely. Then he finds little or no trouble in thoroughly removing every particle of nerve membrane. Would rather fill that cavity made by the drill for nothing, than to undertake to make a successful operation from the cavity of decay. Thinks no material fit to fill teeth with but gold; but if cheap materials have to be, or will be used, prefers Wood's fusible alloy, and tin, to all others. Does not use amalgams at all.

The following resolution was then offered and adopted, by Dr. G. W. Fields:

Resolved, That the wives of the dentists of this Association, and of the physicians of the city, or any other ladies who may wish to attend, are respectfully invited to be present the forenoon session of this Association on to-morrow.

The Association then adjourned to 9 o'clock, a. m., to-morrow.

Third Day—Forenoon Session.

Minutes read and approved.

On motion, the 6th subject was passed and the 7th taken up, "Impressions of the mouth, &c." Nearly all present described their manner of taking impressions, which was quite interesting. A majority use plaster of Paris.

On motion, the 8th subject, "Artificial Dentures," was taken up. Nearly all present taking part in the discussions.

On motion, the 9th subject, "Neuralgia," was discussed. Dr. Taft described Neuralgia, and gave the treatment.

On motion, adjourned to meet at 2 p. m.

Third Day—Afternoon Session.

Minutes read and approved.

On motion, miscellaneous subjects were taken up, and after several subjects, not in the regular order, were glanced over, the discussions closed.

On motion, the following resolution, offered by Dr. J. L. Nourse, was adopted:

Resolved, That the Executive Committee be requested to report through the Secretary, the subjects for discussion at our next meeting, at least two months previous to said meeting.

Dr. W. H. Morgan proposed to give a reward of fifty ($50) dollars, for the most approved essay on "How to promote the health of the dentist,"—subject to same rules and regulations as the prize essays offered by the Mississippi Valley Dental Association.

The committee appointed to decide upon the merits of the essay, was appointed, and is composed of the following gentlemen: Drs. Driggs, Rogers, and Taft.

On motion, the following resolution, offered by Dr. R. H. Wilson, was adopted:

Resolved, That the thanks of this Association are hereby tendered Mr. Steadmen, for the use of his rooms during the sittings of this Association.

On motion, the following resolution, offered by Dr. Redman, was adopted:

Resolved, That the thanks of all visiting dentists are hereby tendered to Dr. Morgan, our President, and the dentists of Nashville, for the very kind manner in which they have received and treated them during their stay. And all the members of the Association, to Dr. Morgan, the President, for the able manner in which he has presided over this society.

On motion, the Association adjourned, to meet in the city of Louisville, on the second Tuesday in July, next, it being the 17th day, 1866.

W. H. SHADOAN, *Sec'y.*

DISCUSSIONS OF CENTRAL STATES DENTAL ASSOCIATION.

Semi-Annual Session, Nashville, Tuesday, April 10, 1866.

Reported by Geo. W. Field.

FIRST DAY.

The subject of Dental Education was then taken up and discussed. Dr. Taft made some general remarks upon the subject, and then dwelt somewhat at length upon dental colleges, as a means of professional education. He presumed that notwithstanding the existing schools are not all that could be desired, yet they have done much in the right direction for professional education.

They have placed those who have availed themselves of their advantages, upon a basis that they could not otherwise have obtained, both in regard to attainments and position in the profession. He suggested that our colleges have not received the support from the profession that they should have received, and from this fact arises a large portion of the inefficiency that has been attributed to them.

If any one says they are not efficient, and do not accomlish as much as they should, to such an one we reply, put forth your effort to make them better; have you done all you could to make them what they ought to be? He referred to the fact, that some effort has been made to attach dental professorships to medical schools. We will not enter upon a consideration of the merits of this subject, but will say that as it has been advocated in some cases, it will be totally inefficient for good to our profession. He referred to an effort being made to establish a dental school, in connection with the medical department. This enterprise, if established upon the basis proposed, will be successful, as a means of imparting true professional education. He believes that the wants of the profession call for a dental college in the North-West. New York and Boston also should have their dental colleges.

Dr. Shadoan—Understands the establishment of the dental chair in the medical college, as only intended to prepare medical students for a limited country practice of dentistry.

Dr. Cobb—Work, alone elevates. Let us each put forth every effort, and at all times do our best; always laboring to improve ourselves and others. If we find ourselves wanting the qualification to fill well the position we have taken, then withdraw from it, and not remain to be only a drag on the profession, thereby making room for those competent. If, otherwise, then let our light shine, that others may see to follow in the same path. In this manner the inevitable result is to elevate the profession. I will take this opportunity to thank the writer of an article, entitled "Stuffing teeth," in March number of *Register*. Of such operations we have too many, they are no credit, only tending to degrade the profession.

On motion, the next subject was taken up. "Anæsthetics, their proper use and relative value."

Dr. J. L. Nourse—Rarely makes use of any anæsthetic agent, and believed, if systematically opposed, they would soon become obsolete.

Dr. Cobb—had used the battery with moderate success; but had long since discarded it.

Dr. Russell—First commenced the use of chloroform in 1846, have since used it nearly every day, and never have met with an alarming case. I have administered it to patients who had been refused by other operators, and met with universal success. Never have used the nitrous oxide.

Drs. Fouche, Walsh, Hartman, Bedford, Ross, and Redman—had abandoned the use of anæsthetics, believing them to be highly injurious.

Dr. Naghle—I have used the oxide, and was much pleased with its effects. Having administered, and assisted, in at least 4000 cases. I am fully satisfied of the frequent deleterious results, and many times fatal consequences, in the use of chloroform.

Dr. Morgan—Was much opposed to the use of chloroform, owing to the prevailing ignorance, and on this account felt it to be an empirical practice. His fears were first aroused by the fatal accident, from its use, in the hands of Dr. Simpson, the originator.

Dr. Taft—I feel somewhat in the dark on this subject. Many can use chloroform without fear, and with complete success; others with great fear and timidity. He gave several cases of its fatal results, which had come under his immediate observation—all of them in the hands of eminent physicians and surgeons. It does not satisfy me to say that these men know nothing of its nature; we need more light. I do not doubt Dr. Russell's success, yet feel very cautious when I know that so many deaths occur. I cannot explain this difference, unless that some possess an intuitive knowledge, by which they are governed, in forming a proper diagnosis. Do not consider nitrous oxide so objectionable; its action being the reverse of chloroform—I regard it as safe. Do not know of a well authenticated case of death from its use. Its after effects are not so disagreeable; it does not produce the depression and lassitude which follow the inhalation of chloroform. I deem it impracticable for general office use, for the following reasons: The gas must be manufactured *pure*, by a thorough chemist. It may be easily rendered impure in generating, thereby rendering it poisonous. The paraphanalia, for its inhalation, is objectionable. One person should make this a specialty. I would not recommend the use of any anæsthetic—all objectionable—and will never administer chloroform to patient without a physician, believing that it is sufficient for one person to watch its effects, without his attention being absorbed in the operation. The battery, no doubt, would answer in many cases, but owing to the many and varied idiosyncrasies met with, which cannot be fully understood, this, like all other methods, is objectionable.

Dr. Garkey—Says that in Vienna, Austria, there is a chloroform and ether *administerer*, who makes this his whole business. He gives it from a bag, claiming that there was sufficient air mixed with the ether in the bag.

Next subject, "Extraction of teeth; when to extract, and when not."

The discussion was introduced by Dr. Nourse, followed by Dr. Wilson. The former extracted only when no other course would answer. Dr. W., in extracting for artificial denture, always leaves as many as will be required for the benefit of the patient. Would always remove the cuspids, if only they remain, as an artificial denture can be of little use in such a case.

On motion of Dr. Redman, the meeting adjourned to Wednesday, 9 a. m.

WEDNESDAY, 9 O'CLOCK, A. M.

Minutes read and approved. Extraction of teeth resumed.

Dr. Russell—In crowded teeth I extract the bicuspids, and sometimes think that it is wrong. I regard it of much importance, and would like more light on the subject.

Dr. Shadoan—In the extraction of teeth I am governed by two conditions. First, in deciduous teeth, when malformation has or is liable to take place. Second, in adult cases, when resulting from mechanical injury, disease of the alveolus exists. In these cases I always extract. Decayed teeth for children I always prefer to treat and fill. If the patient is not able to pay full amount of bill, will charge only for material used. This course gives us the benefit of experimenting, as well also as the consciousness of having discharged a duty. If there is continued ulceration, would remove its cause.

Dr. Taft—I believe there are too many teeth extracted, yet uniformity of practice can not be obtained among all practitioners, owing to the great difference of ability; some may succeed in the most difficult cases, others fail in accomplishing a desired object, while still others only make a bad job worse. I know that many save all cases presented, no condition of organ being a bar to success, and all should strive to this highest attainment. Now, we all have a slight egotistical opinion of our ability, yet I pity those who can make no further advancement. We should all possess the ability to diagnose correctly each case presented for treatment. Many will not appreciate the efforts necessary to the preservation of a badly diseased organ, while others would not hear to its loss for any consideration. This is another modifying circumstance, and not the mere matter of dollars and cents. We cannot always act benevolently, yet I would never turn off an appreciative, poor patient, when there was time to spare; if such is the case, I always recommend to another operator who will do the patient justice. I hope to see the day when operators will refuse to extract a tooth that can possibly be saved.

Dr. Cobb—Was satisfied that he had made great improvement in this branch, and hoped in the future to devote more time to its study. The education of parents, as to the importance of care for children's teeth, would greatly assist the operator.

Dr. Morgan—I have been many times mortified to see cases that came into my office, they could well be branded as malpractice, Great stress should be laid on the filling of deciduous teeth, owing to the progress of the formative process; then is the time that our attention should be more specially directed to those teeth, in order that a perfectly formed set may be the result.

Dr. Taft—I appreciate Dr. M.'s remarks on this subject. Too much attention can never be bestowed. Dr. T. also spoke of the frequent injury done to patient and operator by operating when not in a proper physical condition. Again, patients must be instructed, so that they may have a just appreciation of the value of their teeth. Many will give $50 or $100 for the restoring to soundness of an eye or an ear, when they would not give $5 for a tooth.

Next subject, "Absorption and reproduction of alveolar process, and its treatment."

Dr. Wilson—Absorption can be prevented, if timely treatment is given, the dentist having the ability to form a correct diagnosis of the case. The first, and all important item, is to impress the patient with the necessity of cleanliness. Is skeptical as to reproduction.

Dr. Morgan—Asked, if in the case of correcting irregularities, reproduction does not take place?

Dr. Wilson—Yes! but I do not consider that as coming directly under this head. Would make my remarks applicable only to those cases, where absorption was at the edge of the gum, causing the loosening of the teeth.

Dr. Nourse—Asked, if in correcting irregularities for patients, twenty-five years of age, there was a defect of the alveolar process, owing to non-reproduction?

Dr. Shadoan—Believes that the same reproduction would take place, as in the filling up of sockets after extraction.

Dr. Russell—Have corrected irregularities, and they now are sound and solid.

Afternoon Session.

Subject, "Filling teeth, relative value of different material.

Dr. Nourse—Use adhesive foil principally, rarely amalgam. Use the burr, chisel and excavator in turn, if thin covering, over nerve introduce a drop of moist plaster of Paris as non-conductor. Gold in rope with broad point plugger, condensing thoroughly until full, then wedge when necessary with soft foil.

Dr. Russell—Uses gold, amalgam, and tin. Success depends largely on the ability of the operator.

Dr. Wilson—We operate to save teeth, and for this purpose gold only should be used; if other material is used the tooth is filled but not truly saved. Experiments with Wood's filling thinks that it will withstand action of acids of the mouth, but will permit the fluids to enter between the filling and the walls of cavity. I doubt the possibility of forcing it against the walls with sufficient firmness to exclude moisture, and have seen the teeth saturated in four weeks, and dentine turning yellow. For all *cheap* fillings, I prefer amalgam. If properly prepared it will better preserve a tooth, as it can be pressed against the walls. I use the mallet with great advantage in cutting away the enamel, also forming grooves for retention of gold in approximate cavities of central incisor. Use adhesive gold in pellets, commence at bottom of cavity pressing towards the walls, thereby filling its retaining points, instead of forcing or wedging into them from the mass. My instruments are squarely serrated instead of V shaped, for this idea I am indebted to Dr. Taft. I also use the coffer dam, which is very efficient in protecting the filling from moisture. Have been practicing building up the crowns of front teeth and cusps of molars, with success, and find the mallet a very important auxillary in this work.

Dr. Morgan—The unanimity of the experiences, as expressed by those here present, and with whom I agree, will require but few words to express my views. Amalgam being more dense will resist the wear of mastication better than Hill's stopping, Os Artificial, &c. I consider it next to gold, yet use it but seldom, except for childrens teeth. I use soft foil in blocks, it being more pliable can be manipulated with greater greater ease than any other kind; but as I have had no experience with adhesive foil, I will not dispute with its advocates.

Dr. Cobb—Each article has its advantage, each the plan peculiar to itself. I use soft foil for the body of filling and finish out with Abbey's No. 4 adhesive.

A resolution was here passed. That the physicians of Nashville be invited to participate at the discussion of Reproduction of Bone. Adjourned to 8 o'clock in the evening.

Evening Session.

Subject, "Reproduction of Bone."

Dr. Taft—Has found that much benefit may be derived from the use of bone phosphate, in cases when the teeth do not appear to be properly developed. Considers it of great importance in cases where the parents have inferior teeth, that bone phosphate should be administered to mother during gestation and lactation, thereby furnishing the material through the mother, for the formation of a perfect set of teeth.

Dr. Garkey—Having travelled extensively in Europe, and having devoted much of his time to the thorough investigation of subjects interesting to the profession, gave a brief statement of the condition of the teeth in Germany. I visited a school of about 65 children, and was requested to examine their teeth. I found none decayed. Their ages varied from 6 to 12. This superior condition of their deciduous teeth is mainly attributable to the plain living and the full use of their masticatory organs. Rye bread, which contains the required material for the formation of bone, is the principle article of food, this also compels the proper use of them, to give them firmness in the sockets. Another remarkable fact, was, that the women all had bad teeth, this can only be accounted for, by the fact that they are not cleanly.

Dr. Taft—Suggests that the draught of bone material, during gestation, might account for this change, also that the fluids of the mouth undergo a change. In countries where their habits of life are more natural than in America, good teeth is the rule not the exception. The *Scotch*, from their use of rye bread, furnish the bone supply, also the required exercise; and this is as essential to the perfect development of the tooth, as of any organ of the body. An arm, if held long in disuse, will soon shrink, loose its strength, and become useless; disuse will effect decay.

Dr. Garkey—Many times the permanent teeth do not have sufficient room, when the deciduous teeth have vacated, owing to the non-enlargement of the arch; exercise is essential to the proper formation of the arch. Without this, irregularity is the result. It seems as though nature had committed an error, by giving teeth to children of the present age; as they are fed on such soft pulpy food, that only the gums are necessary to its mastication.

On motion, the subject of "Filling teeth" was resumed.

Dr. Garkey—I treat my patient according to the appreciation manifested. Dr. G. here gave the following experiment in treating nerve, and requested that all present should examine its merits, by experiments, and report at next meeting. Second sup molar posterior approximal surface, near the neck of tooth, nerve exposed, applied pure arsenic. Cut away the crown of tooth, and filled the original orifice, afterward the artificial cavity. I only destroy the nerve pulp, leaving the arsenic from one to four hours. After removal of pulp, apply cotton saturated with collodion, and let it remain from three days to a week; and have found after three weeks, that the vitality of the nerve in the roots was not impaired.

Dr. Morgan—Never leaves arsenic in tooth longer than four hours, and then finds the whole nerve in crown and fangs dead, in a large majority of cases.

Dr. Shadoan—Approves of Dr. Garkey's procedure in this class of operations. He had a case where the posterior lingnal surface at the margin of the gum of a second left superior molar. The nerve was exposed and, of course, the thorough extirpation or removal was impracticable through the opening. But in order to make thorough work, he drilled a sufficiently large hole in the grinding surface to admit of a free use of nerve instruments. Destroyed the nerve, removed it, and made a thorough operation.

As to other material than gold, he usually prefers Wood's fusible alloy. He thinks it better than amalgams, tin or artificial bone. He objects to cheap materials.

Dr. Taft—Gave a case of excessive sensitiveness of dentine, attributable to vitiated oral secretion, which was overcome by the use of iodide of potassæ, and phosphates.

Adjourned.

Thursday, 9 A. M.

Subject, "The best method of obtaining impressions."

Dr. Garkey—Request the patient to rinse the mouth with cold water, before the impression is removed, this causes it to be set firmly. I use wax for all patients except serious cases, and experience no trouble from expansion of wax. Dry the mouth with bibulous paper before introducing the wax.

Dr. Naghel—Gives this receipt for imp. wax: 1 lb. wax, 1 oz. burgundy pitch.

Dr. Wilson—For partial sets first uses wax, if not perfect fill impression with plaster and replace, always use wax for lower sets.

Dr. Bedford—Uses parefine and wax with success.

Dr. Fouche—Uses nothing but plaster, until recently, have been making use of wax first, but have not fully decided as to its merits.

Dr. Morgan—Asked for a remedy for the rocking of plates.

Dr. Garkey—I dip my rubber plate in hot parefine, then place in the mouth and press to position, the plate will retain its shape. To harden the model, first warm it, then dip into a solution of Borax. This will protect the model, also give better surface to the rubber plate.

Subject, "When and how should the different materials for plate be used."

Dr. Fouche—In a narrow arch, I use gold, a wide one rubber.

Dr. Wilson—For temporary sets, I insert plate in from three to six weeks after extraction; if on silver, use No. 37. For casts, take 8 parts bismuth, 5 lead. Pour the metal into a metal ring, ½ inch thick and 1½ inches wide, and dip my model having a hole through its centre for escape of air. Take cast thus obtained and coat with whiting, encircle with sheet-iron band, and pour warm metal. Always make duplicate dies. Oil dies, and swedge slightly, then thoroughly anneal before swedging fully, all the prominences, with first and best dies. Silver plates I solder in a continuous band. Rivet all teeth with a serrated pointed instrument. Give gold the preference for partial sets. Have nearly abandoned the soldering teeth on gold, find the combination of gold and rubber, using sectional teeth, much preferable. For solder, five dollar gold pieces, 1 dwt., 16 grs. silver, 20 grs. lead, 6 grs. copper.

"Neuralgia, what is it and how should it be treated."

Dr. Garkey—Is wholly in the dark as to its causes or its relief, more than by local warm applications.

Selections.

ON THE ACTION OF MEDICINAL PREPARATIONS OF IRON ON THE TEETH.

By John Smith, M. D., F. R. C. S., Surgeon-Dentist to the Royal Infirmary.

The preparations of iron in medicinal use are very generally supposed to exert, in a direct manner, an injurious influence on the teeth of patients for whom they are prescribed. Complaints regarding their destructive tendency in this respect are familiar both to the general practitioner and to the dentist. With the view of ascertaining how far such complaints are well grounded, the experiments I have here briefly to notice were made.

Eight of the compounds of iron in most general use as remedial agents, and along with them one or two other non-ferruginous compounds, sometimes suspected of injuring the teeth, were selected, and in solutions of these compounds the same *number* and the same *kinds* of human teeth were immersed. In each of the separate solutions four teeth were placed; and in all cases these four teeth consisted of a sound canine and bicuspid, and a decayed upper and lower molar. The solutions consisted of:

I. Sach. carb. ferri, gr. xx.; aquæ, ℥ i.
II. Carb. ferri, gr. xx.; aque ℥ i.
III. Syrup. phos. ferri, ℥ ss.: phos. ferri, gr. x.; aquæ, ℥ ss.
IV. Syrop. iod. ferri, ℥ ss.; aquæ, ℥ ss.
V. Citrat. quiniæ et ferri, ij.; aquæ, ℥ i.
VI. Vinum ferri, ℥ ss.; aquæ, ℥ ss.
VII. Sulphat. ferri, ʒ ss.; aquæ, ℥ i.
VII. Tinct. mur. ferri, ʒ ij.; aquæ, ℥ i.

At the same time the following non-ferruginous solutions were tested;

I. Sulphate of quinine, gr. v.; sulphuric acid, gtt. i.; water, [℥ ss.
II. Phosphoric acid dilute, ℥ ss.; water, ℥ ss.
III. Condy's fluid (crimson,) ℥ ss.; water, ℥ ss.

On examining the respective solutions after twenty-four hours, the teeth were found unaltered in those of the carbonate and saccharine carbonate of iron, the phosphate of iron, the iodide of iron, the citrate of quinine and iron, and in that of the sulphate of quinine. In the solution of the vinum ferri, the liquid itself was somewhat turbid, the teeth, however, seeming to be untouched. In that of the muriate of iron, a turbid sediment filled the bottom of the bottle, and covered up the teeth from view; the fangs of the teeth were somewhat soft and flexible, and the enamel easily scraped down. The sediment, under the microscope, presented an amorphous granular appearance. In that of the phosphoric acid they seemed somewhat flexible at their more slender parts, such as the points of the fangs; and the enamel looked opaque and chalky, but did not feel crumbling or soft. In the solution of Condy's fluid they were deeply stained, but in no way altered in texture.

The teeth in the different solutions were allowed to remain ten days longer, and on examining them at the end of that period, neither those in the carbonate or saccharine carbonate of iron, the phosphate of iron, the iodide of iron, nor the citrate of iron and quinine, presented any further change, except that those in the saccharine carbonate were slightly blackened—the discoloration, however, being superficial, and nearly all removable by brushing. A ropy sediment adhered to those in the sulphate of quinine, and perhaps a very slight softening of the surface of the fang might be present. The ropy sediment presented, under the microscope, the appearance of a mass of acicular crystals of various sizes, interspersed with threads or fibres of some kinds.

In the solutions of the vinum ferri, the sulphate of iron, the muriate of iron, the phosphoric acid, and of Condy's fluid, certain changes were observable. In the vinum ferri the cloudy precipitate was somewhat increased, and the teeth were dark and discolored, especially in the fangs, but otherwise uninjured. In the sulphate of iron solution a very copious precipitate had formed. The teeth were not softened throughout their whole thickness, but had a layer of soft substance covering in what of the enamel and dentine remained hard beneath. They were also considerably discolored. In the solution of the muriate of iron, a large deposit of the cloudy precipitate had accumulated, and in this the teeth lay buried. Their fangs were very soft, and quite flexible, and the enamel was wasted away, and on being touched, crumbled down like chalk. In those again, immersed in the phosphoric acid solution the fangs were quite flexible, and were diminished in bulk; the enamel could be deeply scratched with any blunt instrument, and felt like Derbyshire spar. It was more wasted, but not so soft as that of the teeth in the muriate of iron solution. Nothwithstanding this loss of salts of lime, on drying by exposure to the air these teeth have again become hard and unyielding. In the Condy's solution, the teeth were covered by a very dark incrustation, which, however, could be nearly all removed by brushing, or still more effectually by applying dilute muriatic acid; otherwise they were uninjured. The solution itself had become almost colorless.

From these facts it would appear that certain preparations of iron, when directly applied, do exercise a powerful effect on the substance of the teeth. And the ratio of the effects obtained would seem to prove, that of all the preparations employed in these experiments that of the tincture of the muriate of iron acts most powerfully, the sulphate of iron next, and next to that again, although in comparison very immaterially, the vinum ferri—the other preparations of iron appearing to be inert.

Of the other substances experimented with, phosphoric acid seems the only one producing injurious effects on the teeth, which it does, however, to a very marked extent—. *Edinburgh Medical Journal.*

OPERATION FOR HARE-LIP, &c.

Messrs. Editors,—In a recent number of your *Journal* I observe a suggestion in reference to an improvement in the construction of hare lip pins, from Dr. S. B. S., of Exeter, N. H. I have no doubt of the utility of what the Doctor suggests; but at the same time I think my own method of operating preferable.

I have had occasion, within the last ten years, to operate for hare lip a very considerable number of times, and have invariably used the finest sewing needles that I could obtain. I insert them with a suitable pair of pliers (a great deal better, by the way, than the fingers for this purpose), and take care to make the insertion deep and thorough. After the parts are securely bound with sutures, I cut off both ends of the needles and cover them with adhesive plaster. The children appear to enjoy themselves at the breast as well as before the operation. In every instance in my experience thus far, the succes has been perfect, and my conviction is, that every surgeon who gives this method a fair trial will never after use anything else. I usually insert three needles.

I have also practised the dressing of other incised wounds in the same way, with very satisfactory results. Only yesterday after the amputation of the mamraa, I dressed in this way, because from previous experience I am satisfied of its superiority over the ordinary suture. In securing lacerated and incised injuries of the scalp, there is no comparison between the use of these fine needles and any others I ever saw used. In most cases it is entirely unnecessary to remove any of the hair; and the parts tolerate the presence of the needles much better than they do that of any suture.

Owego, April 4th 1865. Very truly, &c.,

E. DANIELS, M. D.

[The above method of operating for hare-lip is essentially that recommended by Prof. Gross, in his great work on Surgery, as the best. Dr. Gross, however, does not find it necessary to use any plasters.—EDS.]

SULPHATE OF BEBEERIA IN FACIAL NEURALGIA.—The following prescription is highly recommended in this distressing affection: Sulphate of bebeeria, one drachm; dilute sulphuric acid, one drahm; tincture of oranges, two drachms; distilled water, one ounce and a half: one drachm to be taken in water every two hours.

SYPHILITIC SARCOCELE. SLOUGHING OF THE SCROTUM. REMOVAL OF THE GLAND. NITROUS-OXIDE.—— ——, æt. 22. The patient contracted chancre three years ago, which was followed by inguinal enlargement and profuse skin eruption. Ulceration of his nose is a prominent symptom, and the part has assumed the flattened appearance consequent upon the loss of its bony structure. About a year since, the right testicle began to enlarge, became heavy, very hard, and at times painful. Six weeks ago, the tisticle increased enormously in size, the skin covering it sloughed, leaving the organ entirely denuded. There is a fetid discharge, which weakens him very much. In this disease we find the organ infiltrated with a yellowish lymph, which is deposited in and around the tubes, finally obliterating the normal structure. The parts here have sloughed to such an extent as to leave no chance for the organ being covered by skin. In consequence of this, the great discharge, and the disorganization of the part, we shall remove it. The nitrous-oxide was inhaled, perfect anæsthesia being induced, an incision was made running up the cord, which was turned out and divided. The hæmorrhage being controlled with one acupressure needle.—*Med. and Surg. Rep.*

THE AGASSIZ EXPEDITION.

The Boston *Transcript* contains the following intelligence as to the reception of Professor Agassiz and his party at Rio: "We are glad to learn that Mr. Agassiz and his party arrived safely at Rio de Janeiro on the 22d of April, and were most kindly received. The Emperor sent a boat alongside the Colorado to take the party on shore, and in the evening had a long interview with Mr. Agassiz. The Secretary of the Treasury of Brazil gave orders to have the baggage and instruments of the party passed unopened at the custom house, and every courtesy was extended to the members of the expedition by the officials of the Brazilian government."

Correspondence.

Editor of Dental Register.—As your readers are nearer, or at any rate *dearer* to me than the rest of the profession, will you allow me a little space for a personal matter? A small matter it is, too, and one which I had, for a time, quite forgotten, and which, in some respects, would appear more appropriate in the "Dental Cosmos" than in the "Register" but the dental editor of the "Cosmos," as I understand his editorial and other statements, is so overwhelmed with "the cares of this life," and especially with the heavy responsibility of the entire profession resting on him, that only by a rigid economy of his spare moments, by "working while others sleep," by burning gallons of midnight oil, has he barely time to villify or slander a brother, but not a moment to spare for palliation, correction, or retraction. Oh, no! "life is to short for such encounters, and one should value his *time* and *opportunties* for self-improvement too highly to waste them in that way." So, unless I can get the American Dental Association to let him off with a half dozen speeches on each subject, and to forgo the pleasure of listening, at our next meeting, to his eloquent lecture on the toe-nails, I have no hope of his ever having *time to waste* in doing a simple act of justice in the "Cosmos." I hope, therefore, you will hear me in the "Register."

As you are aware, I prevented the January number of the "Cosmos" from going to the profession without editorial matter. By April I had inaugurated another improvement, in the shape of a PRIVATE CORRESPONDENCE department, which has started off quite racy. Indeed, by the close of the year, I hope to have the "Cosmos" almost as lively as the "Register." Here is an extract from this department; but, as it is *private* correspondence, please don't read it to any one:—

"DEAR MCQUILLEN:—Yesterday's note, containing copy of a note from Prof. Watt, is before me, to which I reply, that you have saved me the necessity of responding to Watt, as you reported me as saying just exactly what I meant to say.

Watt did charge me at Chicago with saying that royal jelly changed the sex, which I denied having said or meant. I can not now more than then state just what I did say; but I know what I meant then and now.

I think your stricture correct, just, and necessary. If you understood me to say at Chicago just exactly what I meant to say, I am satisfied that the misapprehension was of the ears of those listeners who now say that I put forth babbling nonsense. If they understood me to say what they now say I said, there is but one conclusion to come to of two, both uncomplimentary to them : 1st, they either did not know I was wrong, or 2nd, they did not care enough for so important a truth as to advocate it against false authority.

As ever

ATKINSON.

"Reported me as saying just exactly what I meant to say." Exactly! Everybody knows Dr. A. *means* to tell *just exactly* the truth, in science as in other things; but, when he gets confused and blunders, he *doesn't always do it.* "Denied having said or meant." Well, at the social meeting at Prof. Miller's, in less than five minutes after I got there, I called Dr. A.'s attention to his mistake, which was made only a few minutes before adjournment; and I have only to say that Dr. A.'s mode of denial is as *original* as his genius in other things. His first remark was, "Why didn't you pitch into me?" To which I replied, that I thought it was better to call his attention to the matter, that he might correct it himself. For this he thanked me, and added, "I guess I must have waded there." *Now*, I recognize this as a *most emphatic denial*; but I didn't so understand it *then*. You will notice that Dr. A. does not pretend to remember what he did say, and says he didn't remember it even the same evening. But President Spalding, it seems, had a better memory, as his letter to the "Register" illustrates.

The "uncomplimentary" conclusions suggested are so unworthy of Dr. A., that nothing can induce me to hold him responsible for them. They are the inspiration of cerebro-spinal irritation, ("evil angels") and not the *thoughts of William H. Atkinson.* Didn't know? Then who taught us before we met him? Didn't care? Then why so promptly (yet so privately) call his attention to the matter as a mistake of a hurried speech? When the "good angels" (healthy nerve forces) get possession of Dr. A. again, he will, instead of these, draw the correct conclusion that, while we noticed his mistake we cared for truth in science, and cared also *for his feelings*. And that is the conclusien Dr. A. *meant* to draw, in the very same sense that he "meant to say" what the "Cosmos" editor has put into his mouth, that is, he intended to be scientific and *truthful* all the time, but partially failed through inadvertence then, and nervous irritability now.

I listen to Dr. A. with the ears of a reporter. I believe I have succeeded better in reporting him than any other non-phonographic reporter in the profession; and he has told me this himself. Dr. Spalding is also an experienced reporter. He heard as I did, and called Dr. A.'s attention to the mistake before they left the hall; and there was no denial then, except to say, in substance, "Why didn't you correct me?" Negative testimony amounts to nothing against positive. It matters not how many didn't hear the remark. Those who did hear it know what it was.

But even if my statement were not true, it does not follow that the editorial contradiction was not coarse, ungentlemanly, and vindictive. Nor does it help the matter that, in May and August preceding, some kind things were said of me, the leading idea being, Dr. W. is a good fellow, *and he likes me.* Joab spoke kindly to his cousin, and then stabbed him under the fifth rib while pretending to kiss him; and the wisest monarch of the world put him to death for it, without a thought of his kind words. And, no doubt, Judas bought the best in market for his Master to eat; but he *betrayed him with a kiss*, and God and man estimate his character accordingly. And Judas never had the impudence to parade his former friendship as an excuse for the betrayal, but had the decency to sneak away and hang himself; and how well it would be for our profession and the world, if those like him would follow his "illustrious example," I leave others to judge.

It may appear to the reader of this that "the game is not worth the candle," but *truth* and *honor* are not yet unmeaning terms in our profession; and that they may ever be held at their true value is the wish of Yours

GEO. WATT.

* * *

PROF. J. TAFT.—*Dear Sir*. I saw an article in the "Dental Register" in relation to Dr. E. A. Bogue's improvement on Artificial Palates. Now, this process is not entirely new, as I have made them in a similar way for years. I have been in the practice of inserting Palates for the last fifteen years upon Gold, Silver and Rubber. I have made them upon Gold which have been worn for fifteen years with good satisfaction. I made the back part thin and flexible,, with a downward curve, resting lightly against the muscles of the Pharynx forming a curtain, arched in the center or soft palate, so as to give it the shape of a well-formed mouth and flexible enough, so as not to irritate the muscles in swallowing or speaking. It requires judgement and skill in getting a good impression, and forming and adjusting the Plate. Since the Rubber has been introduced into our practice, I have made much improvement in the manufacture and adjustment of these plates. Now we know that it is not neccessary to fill the nasal cavity, but it is desirable that the plates should be so formed as to give the mouth, or palate and throat, the natural shape. The whole apparatus should be thin, light and flexible, consistent with strength and durability, I have made them of rubber, which accomplishes this desirable object some of which plates have been worn five or six years with the best of satisfaction. It seems that Dr. Bogue's plan is in part, similar to my own in the form of the plate, but in detail much different. The object. as I have already stated is to bring the palate and throat into proper shapes, in order to obtain a perfect articulation, and these plates must be so nicely fitted as to make it tight to prevent the air and sound from passing through the nasal organs, and so flexible as to give full play to the muscles. My practice has been, when the teeth were entirely out and nothing but the alveolar ridge left, to get a good impression of the ridge and back part of the throat as possible, trim the surplus from the top of the impression, make a line at the back part of the alveolar ridge, take the impression of the interior of the ridge, making a line corresponding with the one already taken, get up the plaster models, join them together, then get up a plate of gutta percha and fit it exactly to the mouth, taking the articulation of the teeth in the usual way, adjust the teeth, and bed the whole in the flask (which by the way must be larger and longer than the ordinary ones in use, say three inches in depth and five inches in length. Separate the flasks and remove the Gutta-percha &c., and pack the rubber; the hard around the teeth and alveolar ridge and nearly as far back as the hard palate extends, then commence and blend in the soft rubber until it runs out into all soft rubber on the Sides and back against the Phryngeal Muscles.

I think it preferable to have the plate over the anterior of the ridge of hard rubber, as we avoid the heat, and it lessens the collection of mucus.

Where the teeth are in, the method may be varied according to the circumstances in the case, which I will not occupy your space to explain, unless it is required, if so I should be pleased to comply.

I will here say that these plates may be made entirely of hard rubber, by a peculiar process, making that part of it hard where required, and the remainder soft.

Sam. Lawrence
Lowell, Mass.

Editorial.

THE CALL.

The following call issued to the dentists of Ohio we regard as a very important step and one that should attract the attention of the entire profession of the State. We hope and confidently expect to meet a large number of our professional brethren on that occasion. It will be the largest dental meeting ever held in the state; and it is important it should be; every state in the Union should have its State Dental Association.

In this organization it is very important that all who have the welfare and best interests of the profession at heart should participate.

There are in the state over five hundred dentists, and we have good reason to believe that over half that number will be present. We do most sincerely hope that the formation of this society will be accomplished, by the harmonious cooperation of the entire profession of the State. Let every man be a committee, to see to it that he himself is promptly there on the morning of the 26th inst that the meeting may be called together at 10 o'clock A. M. Let no one harbor the thought for one moment, that it will make no difference if he is not there promptly. It will make a difference, and perhaps a fatal one. So let all be there, and every one take somebody with him.

TO THE DENTISTS OF OHIO.

The entire Dental Profession of the State of Ohio are hereby cordially invited to meet in mass convention, in the city of Columbus, at Nautons Hall, on Tuesday and Wednesday, the 26th and 27th of June, to form a State Dental Society, and to devise and adopt such other measures as tend to elevate and advance the interests of the profession.

Come up, Brethren, and let us have such a meeting as our profession has not yet seen! The advantages to be derived from such an organization can not be overestimated. Other states around us are fully organized. Shall Ohio lag behind? *May* 21*st*, 1866.

C. N. Woodward, Ripley.
J. Taft, Cincinnati.
A. Berry, “
H. R. Smith, Cincinnati.
Wardel & James, “
Cameron & Wright “
H. A. Smith “
C. R. Taft “
S. W. Ludlow, Columbus.
John Fowler “
J. W. Wortman “
R. G. Warner, “
J. B. Beauman “
H. C. Fowler “
W. C. Lilley, Circleville.
M. DeCamp, Mansfield.
N. W. Williams, Xenia.
Geo. L. Paine, “
Geo. Watt, “
C. C. Carroll, Ravenna.
B. F. & D. Gibbons, Warren.
C. Palmer “
B. T. Spelman “
M. M. Oldham, Springfield.
D. Philips, “
A. E. Lyman, Garrettsville.
S. R. Bequith, Kindsman.
F. S. Whitslar, Youngstown.
J. R. Finney “
J. C. Whinery, Salem.
D. Herrick, Trumbell, Co.
A. A. Blount, Springfield.
J. Armstrong, Bucyrus.
A. W. Maxwell, Gallion.
Rhoads & Myers, Woster.
C. R. Butler, Cleveland.
B. F. Robinson “
B. Strickland “
F. S. Slosson “
L. Buffett “
Gibbs & Stout, Portsmouth.
H. H. Harrison, Cadiz.
J. W. Scott, “
H. Morrison, Steubenville.
O. Kells “
W. C. Anderson “
J. Chesebrough, Toledo.
C. H. Harroun, “
B. F. Rosson, Troy.
C. Bradley, Dayton.
Thos. K. Brewster, Dayton.

MEASURING CUP.

This is a little appliance arranged by Dr. Shadoan, for determining the amount of rubber for any given case. By it the amount can be precisely determined, which in many cases is an important item. It consists of a small cup, with a glass tube and scale attached. The method of using it will be suggestive at first sight. We presume it can be obtained at any of the Dental Depots.

AMERICAN DENTAL ASSOCIATION.

The annual meeting of this body will be held in Boston Mass., beginning on Tuesday the 31st of July. This will probably be the largest meeting of this Association ever held. Boston is certainly a very desirable place, on many accounts for holding the meeting. There are there many things of general interest, that always attract the attention of the visitor, and we doubt not, all members and delegates will be delighted to go. And in addition to this the number of local societies, entitled to send delegates, has considerably increased, and all the pre-existing societies have been rapidly growing, so that they are all entitled to a larger number of delegates than heretofore; and every society so far as practicable have elected delegates who are not members of the National Association, and all the old members, will be induced by former experiences to be present. Now all this we regard as very good data upon which to anticipate a large meeting.

All the committees so far as we are advised are industriously engaged in the accomplishment of the work, assigned them at the last meeting, so that without doubt there will be much presented for the consideration of the Association. We would suggest that the association take into consideration the propriety of adopting a code of Ethics. Something of the kind, it seems to us, would be advantageous,—securing in the profession more uniformity, where there has hertofore been much diversity. We would not by this, be understood, as advocating the idea that the association should assume judicial power or authority; but that such a code might issue in an advisory aspect. This subject was touched upon in an article read before the last meeting, but the subject was not acted upon or discussed. We expect to enjoy the blessed privilege of a large and enthusiastic meeting.

* * *

THE AMERICAN DENTAL CONVENTION.

Will meet in the city of New York on the first Tuesday of August. We anticipate a large gathering of the profession at that time, if no adverse circumstances arise.

In the free and unlimited discussion and interchange of opinion granted in this body much good results. It is eminently adapted for the cultivation of professional acquaintance and sociability. We say to all, attend the American Dental Convention. It will as it always has benefit all who attend.

CENTRAL STATES DENTAL ASSOCIATION.

The Third Annual Meeting of the Central States Dental Association, will be held in the Lecture room of the Kentucky School of Medicine, in the City of Louisville, commencing on Tuesday, July the 17th, 1866, at 10 o'clock, A. M.

Your attendance is earnestly requested.

W. H. Shadoan, Sec'y.

Subjects for Discussion.—First. Temporary Teeth their importance and uses. Second. Indications for the Extraction of Teeth. Third. Material for Filling teeth. 1st. Gold:—Soft foil. 2d. Gold:—Adhesive foil. 3d. Gold:—Sponge. 4th. Other materials than Gold. Fourth. Alveolar Abscess. Treatment and Cure. Fifth. Mechanical Appliances—Materials. 1st. Gold, Rubber, Silver, &c. 2d. Utility of Temporary teeth. 3d. Permanent teeth. Sixth. Miscellaneous.

W. G. Redman, } Ex. Com.
W. D. Stone, }

AUTOMATIC PLUGGER.

We have had upon our case for several months one of these beautiful little instruments made by Snow & Lewis, and have occasionally brought it into requisition.

We regard it as one of the best instruments of the kind that have been constructed. We presume that one who had not been spoiled by the living assistant, would find this to be one of the most valuable instruments; and especially after having become accustomed to its use and forming an attachment for it. Very much, in the use of anything, depends upon the good opinion that may be formed of it. We oftentimes see persons using instruments, with great facility, and even accomplishing fine results—that seem to lack almost every element of adaptability and fitness.

This instrument, we are glad to say, seems at once to be just the thing for accomplishing that for which it is intended; and no operator who does not have an assistant constantly at his side, should be without one of these instruments. They are for sale at the Dental Depots.

BRADLEY'S LIP AND CHEEK HOLDER.

This is a very ingenious appliance for holding up, and away from the teeth, the lip and cheek while the teeth are being filled It consists of a broad silver hook, to embrace the angle of the mouth or lip, attached to a neat morocco strap about an inch in width, and two feet long. The hook takes hold upon the lip, the strap passes over the head, and is held in the hand of the patient, by this means the lip is kept entirely away from the teeth, an additional piece, called the duct compressor, can be attached to the hook, and with a small pad of paper effectually closes the orifice of the duct of steno. The appliance is susceptable of a variety of applications which will be readily apparent very soon by use. All should have it.

A FILE CARRIER.

Was invented, constructed and used by Dr. W. G. Redman, of Louisville Ky., for many years, without having made any effort to have it known to the profession even by a simple description, so far as we know. We feel that we have lost much on account of not having this instrument for the past ten years. It is certainly altogether the best file carrier we have ever seen. It can be reversed so as to serve the purpose of two ordinary carriers. Is especially adapted for use upon the molar teeth, may be used upon the front as well. We will not attempt a description of the instrument but will simply say that it has got out, and may be obtained at the Dental Depots, and every dentist ought to have one.

THE
DENTAL REGISTER.

VOL. XX.] JULY 1866. [No. 7.

Original Communications.

DENTAL MATERIA MEDICA.

BY GEO. WATT.

ACONITE.

THIS is the *Aconitum Napellus* of Linnæus, and is ordinarily called "Monkshood" or "Walfsbane." Its botanic characteristics, and the various chemical compounds which it contains, are interesting; but a detail of them would occupy too much space for our present purpose. Its physiological effects, its uses, and the officinal preparations containing its active principles, and which may be useful to the dentist, will prove sufficient here. The dentist has never a call for its internal use; hence its topical action will be mainly, if not wholly considered.

PHYSIOLOGICAL EFFECTS.—These are striking and peculiar. Small quantities of the root, leaves, tincture, or extract, taken into the mouth, cause a tingling and benumbed sensation in the tongue and lips, which lasts for hours. By the use of larger quantities, the sensation is extended to the throat; and from its internal use, the same feelings extend to the extremities and throughout the system. Applied to or near the eye, it contracts the pupil. If used locally for facial neuralgia, it is prudent to mention this to the patient.

Uses.—As it benumbs, or lessens the normal sensibility of nerves, it would seem to be adapted to the relief of exalted sensibility, or neuralgic pain. Experience teaches us that it is, in this respect, invaluable. Pereira says, "In *neuralgia*, no remedy will, I believe, be found equal to it. One application of the tincture produces some amelioration, and, after a few times' use, it frequently happens that the patient is cured. In some cases the benefit seems almost magical." But neuralgia, as a technical term, does not define a distinct and specific pathological condition; hence, we must not be surprised if the aconite sometimes fails to give such prompt relief in cases which we regard as neuralgic. But as its local use is not at all likely to do harm, it may be resorted to, even in doubtful cases; and, when it proves beneficial, the relief is usually so prompt as to gratify the applier, and delight the patient. When the pain results from acute inflammation, it is not very likely to give permanent relief; yet, in the treatment of dental periostitis, it is often valuable as a controller of pain, while the inflammation is conducted to one of its ordinary terminations. It is often more efficient, when applied over a nerve-trunk, than immediately over the seat of pain at the sentient extremities of the nerve. I have never tried it as an application to exposed and painful dental pulps; but where the exposure is so complete as to allow intimate contact, it would probably afford speedy relief. It often promptly allays the morbid sensibility of dentine, especially when the sensitiveness is superficial.

Administration.—It is best for dentists to rely on but two preparatiens of aconite, the *tincture*, and the *alcoholic extract*. The tincture is sufficiently active for topical use, as an embrocation. It may be applied as a liniment over the seat of pain, or over nerve-trunks leading to it. The alcoholic extract may be used as an ointment, by combining one part of it with two of lard or simple cerate. Or it may be spread on adhesive plaster, and applied where desired. Neither the tincture nor the extract should be used on abraded surfaces.

Acontine is an alkaloid substance contained in the plant, of which it appears to be the active principle. Its effects are like those of the root and leaves, but are very much more powerful. Indeed, its action is so energetic, that it is scarcely safe in any hands; and as the officinal preparations mentioned above are sufficiently active for all purposes, they should be relied on to the exclusion of acontine.

BELLADONNA.

This plant is commonly called the *deadly nightshade.* The dentist never has occasion to prescribe it internally. Used locally, it often relieves neuralgic pains very promptly; but, I think it is less reliable than aconite. The solid extract dissolved in water, or the fluid extract, will be found convenient in dental practice. Either may be freely applied in facial neuralgia, over the cheek and jaws of the affected side, with decided relief, in many cases. The pupil of the eye will be dilated; which might frighten the patient, unless previously explained. I frequently prescribe, as a liniment for such cases, the following:

℞. Fluid Extract of Belladonna, Tincture of Opium, each, - - - -	1 ounce.
Chloroform, - - - - -	3 drams.

Mix and use as a liniment on the affected side.

VERATRIA.

This is a vegetable alkaloid, obtainable from most druggists, for which dentists may find occasional use. It may be applied externally to accomplish the same purpose for which the two preceeding medicines are recommended. Its local action is that of an irritant and benumber. Applied to the skin, as an ointment, it causes a tingling and burning sensation in the part, and sometimes in organs quite distant. It often relieves neuralgic pain with great promptness; but it is not so reliable as aconite. When the latter is not at hand or attainable, the veratria may prove highly useful. It may be made into an ointment, by combining twenty to forty grains of it with an ounce of lard or simple cerate.

TOBACCO.

But little need be said to dentists in regard to the medical properties of this stinking weed. The entire plant is poisonous, and is of no use, in any way, to the dental surgeon. It is true that toothache is sometimes temporarily relieved by tobacco smoke, and may be suspended by the use of nicotin, or nicotianin; but as the latter two are not safe, and the former not decent, there is no call for their use, especially as more efficient remedies, compatible with civilization and good morals, are nearly always accessible.

"ORTHODONTIA."

BY A. A. BLOUNT, D. D. S.

Read before the Mad River Dental Society.

Having, in the last few years, given the subject of orthodontia a degree of attention commensurate with its importance, I feel that I can speak with a degree of confidence of the result of my experience, and not, as is too often the case, treat it theoretically.

There are so few who give this subject the consideration its importance demands, that it should be brought more prominently before the profession; and there is no better way to effect this than to make it a subject of frequent discussion at our dental meetings. The excuse offered by many who are unwilling to undertake the treatment of cases of irregularity, is that it is non-compensating. This is undoubtedly true in a great many instances; but, an the other hand, we have the satisfaction, when we meet our patient, of contemplating a perfect denture. Nothing is so repulsive as an imperfect and irregular set of teeth.

The remote or obscure causes which produce irregularity, will be found in the "commingling of all nations, with their national and individual peculiarities," of which material the American nation is composed. Is it to be wondered at, then, that America is the Paradise of the dentist? Not only does this commingling, in a great measure, produce dental caries, but also dental irregularities, as well as other deformities. The child will, as a general thing, inherit the form of teeth and mouth of the parent, whom it most resembles in other respects; occasionally we will find the mouths of both parents reproduced in that of the child—it will inherit from one a small contracted dental arch, and from the other, large well developed teeth, which are so distorted and crowded together that the dentist will despair of ever treating the case successfully, without resorting to a wholesale extraction.

The most frequent causes which produce irregularity are comprised in the following: The result of accident, the indiscriminate extraction of the decidious, and the too early extraction of the permanent teeth. Of these causes, the most disastrous is the loss of deciduous teeth,—there is nothing after which a train of evil results follow so surely and rapidly as the premature extraction of these teeth.

Allow me, in this connection, to make a few extracts from an English author of note, and observe where his teachings, if followed out, would lead. I fear there are many, even now, who follow him to the very letter. In an article on second dentition, he says, "In most cases it will be proper to remove the four temporary incisors, as the two central permanent teeth advance, to allow them to take a position to form a circle of sufficient scope to allow of their *regular* arrangement." He argues, that, retaining the two temporary laterals does not contribute to the expansion of the jaw, and therefore, they are only in the way. He extracts two more temporary, as the two lateral permanent teeth appear. Thus he has extracted six decidious teeth, for the four permanent. So he goes on until the permanent teeth are all erupted, except the two cuspidati, which are now making their appearance in front of the arch. He says, "room, in such cases, must of course be made for them, at whatever expense," and then goes on to say, "that the first permanent molars, erupted at an early age, when the child was physically weak, were almost always found decayed, or with defective enamel, so as to present early signs of decay, thus nature points out, at once, the remedy, extraction of these teeth."

This practice not only does mischief in the removal of decidious teeth alone, but also in the extraction of the six year molars. There is no deformity so destructive to the beauty and symmetry of the mouth, and none so difficult to correct, as that resulting from the early loss of these teeth. How many otherwise, beautiful and expressive mouths have been rendered repulsive in their expression, by this deplorable practice!

We are, at this present time, treating two cases of malposition of the teeth and jaws, both of which are the result of the early extraction of the decidious and permanent molars. In one case the two six year molars in the inferior maxillary were removed at an early age; and the ten anterior teeth were drawn back by the pressure of the lip, which so shortened the lower arch as to give a very disagreeable expression to the under lip, it being turned out by closing upon the superior incisors. The other case is that of a lovely little girl of twelve or thirteen years, whose inferior incisors and cuspids, close in front of the superior incisors, throwing the chin forward, giving it an unnatural prominence, also a contraction of the angles of the jaw, making what is termed a "rabbit mouth." This deformity was caused by the premature extraction of the decidious molars, allowing the six year molars, and first bicuspids, to close upon each other, leaving no room for the second bicuspids to come in, which, consequently never made their appearance. It is scarcely necessary to mention the various forms of irregularity, as almost every case presents a different condition. We will mention the fact, however, that irregularity occurs most frequently in those teeth anterior to the first molars. During the eruption of the permanent teeth, nature displays great wisdom in the manner in which she proceeds to enlarge the jaw sufficiently to allow all the permanent teeth to take a proper position.

In the first place, the two central incisors make their appearance almost as if not fully double the size of the decidious incisors, it would seem almost impossible for them to obtain sufficient room, but by a gradual and constant lateral pressure, space is soon obtained. In a little while, the laterals begin to crowd their way down. Sometimes they do not come exactly between the decidious eye-teeth and permanent centrals. Therefore, instead of producing the lateral pressure requisite to expand the jaw, they are twisted around, so as to present the least resistance to their outward growth, and consequently present a very crowded appearance. In many instances, at this period, the child is taken to the dentist, who is urged, by the anxious parents, to remove the temporary eye-teeth to make room for the crowded laterals. In a short time, the first bicuspids make their appearance, and seem to enhance the difficulty by pushing forward the decidious eye-teeth. The dentist is again importuned by the parent to extract the temporary cuspids. But should he remain firm, and resist the entreaties, and sometimes threats of the parent, he will soon have the satisfaction of seeing the jaw begin to expand, the second bicuspids coming into place, and the cuspids gradually approaching their proper position in the arch, to complete its beauty. Thus nature, by seeming to hurry the teeth forward too rapidly, accomplishes the end desired at the proper time, expanding the jaw sufficiently to allow the teeth to assume their position in the dental arch.

In treating orthodontia, almost every dentist has his own peculiar ideas, and a different mode of constructing the appliance. They may all differ in their construction, yet all possess the same general principles.

In a large majority of cases of irregularity, in quite young persons, it is better not to attempt a treatment, but to allow nature to make such changes as she will, until such time as the jaw has attained nearly its full size. In many instances she will have accomplished the task as skillfully, if not more so, than if done by the dentist. When left to herself, and uncontrolled by hereditary influence, nature will make every portion of the body perfect, in form and structure.

It is always desirable, and *imperative*, in young persons, to obtain the results in regulating, without resorting to extraction to make room. The only instances where extraction is admissible, is in patients of such an advanced age, that it would be difficult, and even dangerous, to attempt moving too many teeth at one time. It will often be found necessary, in order to straighten a single tooth, to change the position of several of the adjacent teeth. We are treating a case at present, in which, to regulate one tooth, we are compelled to move five of the adjoining teeth, in order to make them all conform to the altered position of the crooked one. But should it become absolutely necessary to extract, let it be done with caution, and after mature reflection. It requires experience and good common sense, to discriminate in all cases. I have seen many beautiful and otherwise perfect dental arches completely ruined, by a thoughtless or careless extraction of a single tooth. An instance of recent date, of a young lady of my acquaintance, who had a cuspid standing in front of the arch, which could have been readily drawn into place, but, while on a visit to a neighboring city, went with a friend to one of the first dentists, who, be it said to his shame, extracted the eye-tooth. That lady never looks into her mouth, but to lament the loss of that tooth.

Since the introduction of vulcanized rubber into mechanical dentistry, our facilities for constructing appliances have been greatly enhanced. The difficulties which heretofore attended the manufacture of regulating plates have been entirely overcome. The ease and facility with which rubber is adapted to the various purposes of this kind, render it invaluable to the dentist.

It is hardly necessary to go into a minute and detailed description of various methods of constructing appliances for the different forms of irregularity, as every case, when thoroughly studied, will suggest to the mind of the operator, the means of overcoming it. If we desire to press a tooth or teeth out, which close inside of the inferior, or superior arch, we construct a plate of rubber, allowing caps to extend over the molars to prevent the teeth from coming in contact, build up behind each tooth it is desired to move, an upright of rubber, sufficiently strong to admit of considerable pressure. Into this upright, a screw can be placed to bear upon the tooth, or a stout piece of elastic rubber may be drawn through a hole, drilled in the upright, at a point desired to produce the pressure, which can be regulated at the will of the operator or patient. If the teeth stand in front of the arch, and we wish to draw them in, and at the same time expand the angles of the jaw, construct uprights from the angles back to the molars, vulcanize a piece of platinum or gold wire in the plate at the point we desire the teeth to be drawn, bend the wire down in the form of a hook, on which to fasten a piece of elastic tubeing, to be drawn forward over the tooth to be moved. In this manner, all the force desired can be obtained. Between the other teeth and uprights pack cotton, or fasten rubber, as before described.

These are the only means I have ever found necessary to resort to, to accomplish the object in the most difficult case.

The more simple and adjustable the appliance is made, the better it will answer the purpose, and the more easily will it be worn. Young people have not much patience to bear pain, and soon become tired of anything that requires constant care and attention. In all cases it is advisable not to move the teeth too rapidly at the commencement, but let the pressure be gentle, till the bony obstructions begin to yield, when the soreness will be much less than in the beginning, and the case can be hurried forward more rapidly to completion.

I do not know that I have advanced a single idea that is new, or that, what I have written will afford any member of this society a particle of instruction; but I was appointed to write an essay, and chose this subject, because it is one in which I am deeply interested. If every member would choose a subject in which he feels an interest, and write upon it, we would be benefitted and instructed as well as himself.

GREAT THINGS.

Correspondence of Northern Ohio Dental Society.

Could we acquire greatness of conception and execution, at little cost in time and effort, there is not one among us who would not be great. And could we see that all greatness consists in goodness, fully one-half of the obstructions in the way of its attainment would disappear, as by the potent hand of magic.

It is a *great* thing to know that the greatest is made up of parts so small, as to escape the attention of him who is not willing to contemplate the least, and apparently most insignificant, infinitissimal portions; for upon the perfection of the structure and corelation of these, does the harmony of the whole depend.

These aphorisins are true throughout the broad domain of philosophy. And there is no department of the theoretical or practical work belonging to our profession, where this is not plainly apparent. Who are the best able to understand the working of the whole organism, if it be not those who have minutely studied all the varied little things that go to make it up?

He who is not fastidiously nice in his discriminations, can never be a complete and *safe* performer of the many varying operations required of him in the practice of dentistry. Hence, being a *slovenly* dentist or surgeon, is equivalent to being a *poor* dentist or surgeon.

If nature is so careful of the (naturally) invisible little cells out of which she builds the organs of the body, should we be ashamed to call optical instruments to our assistance, until these be revealed in clearest definition to our delighted gaze? Be assured, the time is not far distant, when he who is not conversant with minutest histology and microscopic anatomy, shall find it difficult to persuade even himself that he is entitled to be considered among the great things, without which the world could not continue!

Our profession, though but in the early bud of its usefulness, even now shadows forth the necessity of the broadest and deepest erudition, in all who aspire to be masters of its philosophy, and its endlessly varied detail of art. So, if you would be great, it will not do to tarry in outward, vague, and ambiguous diagnosis, and slovenly, superficial performance of the work undertaken; for these have been the *opprobrii*, that have hung like an incubus about the neck of the profession in the past, preventing its full developement, and the proper appreciation of its practitioners and patrons. Just so soon as those who enter the profession, shall determine to do so with a great mind, and high purpose, there will be no more half-way pupils or practitioners in our body! And just so soon as we properly appreciate ourselves, and our really high calling, the people will not be slow to seek only such as are capable of doing them, not temporary and doubtful good, but great benefit, lasting as life itself.

Many, now in the profession, of popular standing and ability of no mean measure, are keeping aloof from associations and colleges, for no better reason than that they are not great enough to ignore prejudice, and stem the tide of the bug-bear fears of "what will my patrons and the people say, if I thus confess my ignorance of things I should have known long ago?" The question is not one of popular reputution for ability, but of personal consciousness of real ability, which we can no longer ignore, in delaying to make ourselves equal to the increased demands upon us! He who is determined to be equal to the best, will not refuse the cost, in effort, time, and money—first to compare qualifications, impartially, at every opportunity, so that he may know what is and what is not sound and reliable, in doctrine and practice. And when the true standard is found, he will not rest till it is in process of active attainment, if not already in his possession.

Minds of this earnest stamp are never at a loss for occupation; for so soon as they have practicalized the well defined ideal conception, in their works, they have so sharpened their powers of perception, and, may be, invention also, as to take in a higher and more extended ideal upon which to busy themselves. And thus they go on in a blessed enthusiasm of attainment, from conquering their own darkness to conquer the difficulties that beset the path of beneficent work!

By a constant reputation of these processes, it is feasible to ultimately attain a height and power that would make us dizzy to attempt, at a single effort, even to contemplate. Compare dentistry of 25 years ago with that of to-day, and the wildest hopes for the future would seem to be justified!

If all great things are but aggregations of "little things," how doth it become us to "forget not the assembling ourselves together, as the manner of some is," to give and to receive of the things attained and desirable to be attained, stimulating and being stimulated, into higher and higher ambition, for the great body of which each is an integral part, and without which it cannot be great or complete.

And now, permit me heartily to commend you to angel guidance, in the blessed work of head and heart, and of hand, immediately before you. As ever,

ATKINSON.

WHAT WE MOST NEED.

BY G. W. DE CAMP, D. D. S.

For centuries man seemed inclined to follow the mad experiment of living without "thought."

The reign of terror was but action void of "thought." France might have been blessed had the Jacobins been guided by reason. Was it not by close "thought' that Luther turned things upside down, and confounded the Pope? What was it that enabled Cadimus to grasp the keys with which he unlocked the storehouse of the immortal mind? How did Bacon show the fallacy of Grecian philosophy? How did Newton tell of the stars, and trace the law of gravitation in the falling apple? What nerved the hand of Franklin to grasp the thunderbolts from the armory of Heaven? Was it not "close thought?"

We want independent thought. "It has been said independent thinkers are few, and most Philosophers found their philosophy on the opinions of former Philosophers " "There is nothing new under the sun." Creation gives God as the author of all, but, though we may not claim originality among men, yet old thoughts may be clothed in new garbs, and beautified as the husbandman beautifies the earth. Not by relying on others for opinions, or by copying some writer, word for word; or by taking a sentence here and there, combining them, and calling it an "original communication;" nor yet, by taking other's thoughts, and imagine you can vend this second-hand furniture, and not be stamped a "Plagiarist."

We need singleness of thought. Not that man should have but one thought, and travel on in the same old way—like the good old Parson, of whom it is said, he preached fore-ordination from every text. Thoughts must be mastered one at a time, otherwise all will be lost. I think it was Franklin who told of a child who having an apple in each hand, tried to carry a third, and lost all. The old hen picks up grain by grain.

We need concentrated thought. The mind must be subject to the will, so that all the faculties may obey the call, rally to the rescue, grasp the subject, and not let go until the victory has been won. Small squads of soldiers may gain small victories, but it is only by a concentrated force that the lines are broken, and the enemy conquored. We need continued thought. What would a machine of great power and speed be worth, if it worked but at times? The patient who takes medicine to-day, and neglects it to-morrow, will surely come to grief. Tension breaks the bow, but thought strengthens the mind. It is by continued action that water wears the rock. As a fixed habit may become a necessary part of the existence, so may continued thought become a fixed habit. Then, instead of our finding thought a friendless outcast, we will be welcomed to her hospitalities, and find ourselves pleasantly entertained by her memberless friends.

One thought begets another. It is never found alone, but always in company with its relatives.

We need patient thought. Man has been defined as a religious animal, the laughing animal, the weeping animal, the whittling animal, and by Solomon's admonitions, by inference the lazy animal.

Many strong minds have given up the search for truth, on account of its tiresome paths, who might have blessed humanity, if they had nerved themselves to patient toil. By close thought, we purify our minds, and are able to see the little things which God has clothed in so much beauty. The farmer considers the Geologist a fool, as he looks at him carefully examining the little stone,—he could have shoveled a dozen cart-loads of them, or ploughed a half-dozen acres, in the same time. Close thought is needed, in order to impart instruction aright. True, some men's happiest efforts are made at an unexpected moment, but shall ordinary minds wait for poetic breathing?

What will follow if our thoughts are not independent, single, concentrated, continued, and patient; is to be seen by the present. The advantages of the day are great. No man can have a reasonable excuse for not being able to "act well his part." Colleges are not appreciated. They are valuable, but cannot supply the place of thought; but thought can, in some good degree, supply the place of colleges.

We need a higher standard of dental literature, if we expect to keep pace with the advance of science.

There are some, it would seem, who write simply that their names may appear in print. Their whole object is to let you know that *they* live. From their writings we are led to suppose that they oil the "*hub*" of the universe, and without their help things would come to a stand still, and like a "bug," as it flies through the air, cry "what a great dust we create."

We look to our journals as our hope. Let what is to be published, be written with thought—close thought. Let none use it as an instrument to injure his brother. Men, when they wish to write like fools, should write for "Artemus Ward's book." All such should be regular subscribers for "Ward" or "Nasby," but not contributors to a journal of the dental profession. They trail her robes in the mud. The times demand a higher grade of dental literature.

The wants of the profession demand it. We have been told of a vast unexplored field, until it has become an old and tiresome story. We need the charts. If these cannot be given, say and write no more until they can. Give us not fancied pictures of the future, but sketch the rude present.

Practical knowledge is our necessity. We need close thought *most*, because we have it *least*.

STUFFING TEETH.

Editor Dental Register:—I was rejoiced to see an article in the editorial department, of the March No., on "stuffing teeth." There is a great reform needed in the operative department of our profession. Too many, who claim a high standing based upon the fact of their having maintained a long and lucrative practice, rest satisfied to jog along in the old beaten track, and continue to "stuff" teeth after the most "ancient and approved style," without ever giving a thought to the advancement of those much younger than themselves, and the rapid strides made by many around them. They represent themselves as the old reliable dentists, who are not so silly as to take up with every new fangled style of filling teeth, and do not require the aid of the "mallet," or any such "instruments of torture," or, as a gentleman in the east has styled it, "a merciless tool in the hands of adventurers," (whom, by the way, I saw filling a tooth with it last summer, in Chicago.) These men need spurring up, they are daily doing incalculable injury to those who, with all confidence, place themselves under their care, thinking they are obtaining the highest skill; till by some lucky chance, or a dispensation of Divine Providence in their favor, these poor deluded patients come in contact with some one who has a proper appreciation of his profession, and is willing to base his standing upon the merits of his operations. They maintain their practice by keeping their patients in ignorance, and never allowing them, for a moment, to suspect that there are other dentists as good as themselves. Their patients are perfectly astonished when told that the decidious teeth should not be extracted till the permanent ones begin to appear—they have been instructed to have them extracted as soon as they begin to loosen or ache a little. They are incredulous when told that the six-year molars are the first permanent ones, and laugh at the very idea of treating and filling teeth at that age. I could relate a number of instances similar to the one you mentioned, but have occupied enough space already. If some of these gentlemen would only read the *Dental Register*, they might be made ashamed of their miserable practice, and their worse than miserable operations. B.

Proceedings of Societies.

CONSTITUTION AND BY-LAWS OF THE CENTRAL STATES DENTAL ASSOCIATION.

Article I.—Name.

This Society shall be known as The Central States Dental Association.

Article II.—Objects.

The objects of this Association shall be, to cultivate the science and art of Dentistry and all its collateral branches, to elevate and sustain the professional character of Dentists, to promote among them a mutual improvement, social intercourse and good feeling, and to collectively represent and have cognizance of the common interest of the dental profession in the Central States.

Article III.—Members.

Active members shall consist of regular dental practitioners. Physicians and dentists not regularly in the dental practice may become honorary members.

Article IV.—Qualifications for Membership.

1. Good moral character: evidence to be presented by two reputable persons.
2. Honorable, manly, and friendly feelings towards the members of the profession.
3. A determination to practice dentistry as an art founded upon science, or as a liberal profession.
4. Must be considered a reputable practitioner of dental surgery by the members of the profession who are acquainted with him.
5. Must be a graduate of a Dental College or a graduate of a Medical College, and for one year a regular practitioner

of dentistry; or if not a graduate, must have been a respectable practitioner of dentistry for at least six years; and if the candidate commences the practice after this date, he must invariably be a graduate.

ARTICLE V.—ELECTION OF MEMBERS.

1. Applicants for membership shall present their name and place of residence, in writing, to the Secretary, accompanied with a fee of one dollar, who will refer their application to the Committee on membership, and, if elected, shall sign the Constitution before they can take part in the proceedings.

2. Any reputable practitioner of medicine may become an honorary member of this society.

3. An affirmative vote of two-thirds of all the members present shall be necessary to an election of a new member.

ARTICLE VI.—ELECTION OF OFFICERS.

The officers shall be elected by ballot, a majority of all the votes cast being necessary to a choice. The committees to be appointed by the President.

ARTICLE VII.—OFFICERS.

The officers shall consist of a President and three (3) Vice Presidents, Recording and Corresponding Secretary, Treasurer and two Standing Committees, viz: an Executive, and a Committee on Membership, who shall serve for one year, or until their successors are duly elected.

ARTICLE VIII.—DUTIES OF OFFICERS.

1. It shall be the duty of the President to preside at all the meetings, and, with the Vice President and Secretary, to call extra sessions when occasion may require it.

3. It shall be the duty of the senior Vice President present to preside in the absence of the President, and to perform the duties devolving upon that officer, and also to counsel with the President in difficult cases.

4. The Recording Secretary shall keep a record of the proceedings of the society, take charge of all books, papers and documents belonging to the society and file the same, and serve notices.

5. It shall be the duty of the Corresponding Secretary to conduct the correspondence of the society not connected with its members, to keep a copy of all letters written by him, and a file of all he may receive. He shall report to the society as often as anything comes to him officially, or of interest to the association.

6. It shall be the duty of the Treasurer of the society to hold in trust any and all funds belonging to the society, and pay them out on the order of the Secretary; and to collect all assessments.

Article IX.—Duties of Committees.

1. It shall be the duty of the Executive Committee to arrange subjects for discussion at least two months before each meeting and furnish them to the Secretary for publication; to secure and prepare a suitable room for the holding of the meetings, and to perform such other duties as the President may direct.

2. It shall be the duty of the Committee on Membership to thoroughly examine into the qualifications of applicants in regard to moral character and practical dentistry, and recommend their admission or rejection or refer their case to the Association.

Article X.—Of Students.

No member of this Society shall receive a student for a shorter period than two years unless the student has already received instructions to equal that term, and the student agreeing to attend two full courses of lectures, the last of which shall be in a regular dental college.

Article XI.—Meetings.

1. This Association shall hold two meetings a year. The annual meeting shall be held in the city of Louisville, Ky.,

during the Christmas holidays, and the semi-annual meeting to be held on the second Tuesday in April, the place of meeting to be determined at the annual meeting.

2. Nine active members shall constitute a quorum for the transaction of business.

ARTICLE XII.—AMENDMENT.

This Constitution may be amended by the proposition to so amend being filed with the Secretary one year, and published with the proceedings of the Society.

NAMES AND RESIDENCES OF MEMBERS.

Dr. W. H. Morgan, Nashville, Tenn.
“ W. M. Rogers, Shelbyville, Ky.
“ J. A. McClelland, Louisville, Ky.
“ S. Griffith, “ “
“ W. D .Stone, “ “
“ W. H. Shadoan, “ “
“ W. G. Redman, “ “
“ G. B. Fittz, “ “
“ C. E. Dunn, “ “
“ L. E. Wilson, St. Louis, Mo.
“ J. H. Bedford, Louisville Ky.
“ John Ragland, Nashville, Tenn.
“ S. Driggs, Lexington, Ky.
“ G. S. Jones, Russelville Ky.
“ J. W. Baxter, Warsaw, Ky.
“ R. H. Wilson, Louisville, Ky.
“ B. M. Gildea, “ “
“ S. J. Cobb, Nashville, Tenn.
“ J. F. Canine, Louisville, Ky.
“ R. Peckover, Paris, Ky.
“ L. D. Walter, Cincinnati, Ohio,
“ G. W. Field, “ “
“ J. L. Nourse, Cloverport, Ky.
“ G. F. Lampkin, Louisville, Ky.
“ W. H. Gates, “ “

Dr. G. W. Monroe, Fishersville, Ky.
Prof. J. Taft, Cincinnati, O.
Dr. J. M. Buckley, Nashville, Tenn.
" J. T. Noel, Galatin, Tenn.
" L. T. Gunn, Nashville, Tenn.
" E. Q. Naghel, New Albany, Ind.
" Thos. Walch, Murfreesboro, Tenn.
" T. E. Beech, Franklin, Tenn.
" J. H. Floor, Lexington, Ky.
" W. F. Southern,
" Alex. Hartman, Murfreesboro, Tenn.
" F. W. Garkey, Memphis, Tenn.
" C. P. Baird, Winchester, "
" R. Russell, Nashville, "
" John Fouche, Knoxville, "
" J. C. Ross, Nashville, "

* * *

BY-LAWS.

Honorary members shall be entitled to seats at all meetings of the Society, and shall have the privilege of participating in all discussions not involving pecuniary expenditures.

Order of Business.

1. Calling Roll of Officers.
2. Calling Roll of Members.
3. Reading Constitution and By-Laws.
4. Reading minutes.
5. Reports of Officers and Committees.
6. Election of new members.
7. Election of officers.
8. Reception of members not present at opening of the meeting, and reading notes from absentees.

SECOND DAY.

9. Selection of place for semi annual meeting, to take place at 10 o'clock, A. M.
10. Appointment of Standing Committees.
11. Unfinished and miscellaneous business.
12. Adjournment.

ARTICLE 3.—OF PRIVILEGES, ETC.

No member shall be permitted to speak longer than ten minutes, or more than once until all have had an opportunity to speak, and not more than twice on any one subject unless by express permission of the Society.

ARTICLE 1.—CONDUCT OF MEMBERS.

Any act of special immorality or unprofessional conduct committed by a member of this Association, shall be referred to the Committee on Membership, whose duty it shall be to thoroughly examine into the case and report at the next regular meeting if the charges be sustained. Whereupon by vote the offending member may be reprimanded or expelled; a two-thirds vote being necessary for expulsion, a plurality being sufficient for a reprimand.

ARTICLE 5.—CONTRIBUTIONS.

This Society may receive contributions in money, books, or other property which may be used or disposed of in furthering the objects of the Society.

ARTICLE 6.—LIMITATION OF MEMBERSHIP.

Any member failing to pay his dues for two successive years shall be dropped from the roll of membership.

ARTICLE 7.—AMENDMENT.

These By-Laws may be amended by the proposition being filed with the Secretary one year, and receiving a vote of two-thirds of all the members present,

MINUTES OF THE TWENTY-SECOND ANNUAL MEETING OF THE MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

First Day.—Morning Session.

The Mississippi Valley Association met in accordance with adjournment February 21st, 1866, at eleven o'clock in the Amphitheatre of the Ohio Dental College.

Presiding officer Julius Cheesbrough in the chair.

Roll call, members present; Drs. A. Berry, J. Taft, Cincinnati, O. H. McCollum, Augusta, Ky. Geo. W. Keely, Oxford O. Geo. Watt, Xenia, O. H. R. Smith, Cincinnati, O. M. DeCamp, Mansfield, O. Jas. Taylor, H. A. Smith, Cincinnati, O. W. H. Shadoan, Louisville, Ky. C. W. Spalding, St. Louis, A. E. Lyman, Newton Falls, O. B. D. Wheeler, Wm. Taft, Cincinnati, O. J. Cheesbrough, Toledo, O. N. W. Williams, Xenia, H. A. Beamer, Cynthiana, Ky. Geo. H. Cushing, Chicago, Ill. H. C. Howells, Hamilton, O. H. J. McKellops, St. Louis, W. C. Duncan, Cincinnati, O. C. M. Wright, Cincinnati, O. A. S. Talbert, Lexington, Ky. J. A. McClelland, Louisville, Ky.

The President, Dr. Cheesbrough, here read his opening address.

Minutes of the previous meeting read and approved.

An interval given for the payment of Annual dues.

On motion, Drs. McKellops, H. A. Smith and J. G. Cameron were appointed a nominating committee.

The Executive committee reported the following order of business.

1st. Report of Officers.

2nd. Election of officers 10 A. M. the 22nd February.

3d. Miscellaneous business, Reports of committees in order at any interval in discussions.

4th. Essays or papers to be read on the opening of discussions.

SUBJECTS FOR DISCUSSION.

1st. Dental Materia Medica.

2nd. Diseases of the teeth. Dental Physiology and Pathology.

3rd. Filling teeth. Materials and Methods used.

4th. Dental Specialties.

5th. Mechanical dentistry. New inventions.

6th. Dental Education. Relation of perceptor and student.

G. W. Keeley, }
J. P. Ulrey, } Committee.

The Committee on membership consisting of Drs. A. Berry and W. H. Shadoan, reported the following names of gentlemen for the favorable action of the Association.

W. W. Allport, Chicago Ill. S Clippinger, Madison Ind. R. L Evans, Toledo, O. C. H. Harroun, Toledo O. Geo. H. Mosher, Jackson, Mich. Jas. Armstrong, Bucyrus, O. S. M. Good, Madison, Ind. R, Corson, Middletown, O. W. R. Lilly, Circleville, O. W. H. Morgan, Nashville, Tenn. A. W. Maxwell, Gallion, O. P. J. Collins, Cincinnati, O. H Newington, Jeremiah Nelson, Cincinnati, O. N. B. Stump, Ann Arbor, Mich R. A. Alloway, Montreal, Canada. J. T. Holmes, Jackson, Miss. F. C. Eddleman, Greensburg, Ind. C R. Taft, Cincinnati, B. F. Rosson, Troy O. W. M. Hammond, Cincinnati, O. W. F. Morrill, New Albany, Ind. W. G. Redman, Louisville, Ky. D. Phillips, Springfield, O. C C. Chittenden, Madison Wis. J. H. Paine, Middletown, O. Wm. H. Woodward, Ripley, Matt. Stout, Portsmouth, O. all elected.

On motion a committee of two Drs. J. G. Cameron and W. H. Shadoan were appointed to procure the services of a reporter.

Adjourned until 2 o'clock P. M.

Afternoon Session, 2 o'clock.

The minutes of morning session read and approved. The committee appointed to procure the services of a reporter, reported that it was impossible to get one, there being none in reach that were not engaged. The report was accepted.

On motion the first subject for discussion was taken up.

It was urged that as the subjects for discussion were very important ones to the profession that a report be made by some one of the members. Dr. Spalding kindly consented by the urgent request of the association to report until some other arrangement could be made.

Dr. Watt opened the discussions by a beautiful and clear illustration of the method by which medicinal agents were carried to and affected diseased portions of the system.

Adjourned to meet at 9 A. M. 22nd February.

Second Day.—Morning Session.

The meeting was not called to order until 12 o'clock in consequence of a prolonged session of the College Association.

Minutes of previous session read and approved.

The Committee on nominations reported for officers as follows: President Geo. W. Keely, Oxford, O. Vice President W. H. Morgan, Nashville Tenn. Recording Secretary Wm. Taft, Cincinnati, O. Treasurer J. Taft, Cincinnati, O. Corresponding Secretary Wm. N. Morrison. St. Louis, Mo. Executive Committee Geo. H. Cushing, Chicago Ill. A. W. Maxwell, Galion, O. A. A. Blount, Springfield, O

Publication Committee, Geo. Watt, Xenia O. B. D. Wheeler, W. C. Duncan, Cincinnati, O.

H. J. McKellops,
H. A. Smith, } Com.
J. G. Cameron,

The association went into an election with the following result.

President Geo. W. Keely, Oxford, O. Vice President W. H. Morgan, Nashville Tenn. Recording Secretary Wm. Taft, Cincinnati, O. Coresponding Secretary Wm. N. Morrison, St. Louis, Mo. Treasurer J. Taft, Cincinnati, O. Executive Com.

Geo. H. Cushing Chicago Ill. A. W. Maxwell, Galion, A. A. Blount, Springfield, O.

Publication Committee, H. A. Smith, Cincinnati, O. B. D. Wheeler, Cincinnati, O. C. M. Wright, Cincinnati, O.

Adjourned till 2 o'clock, P. M.

Afternoon Session, 2 o'clock P. M.

Association called to order, President Keely in the chair.

Dr. Cushing appointed Secretary Pro tem.

On motion it was Resolved that Dr. H. J. McKellops be requested to exhibit and explain before the Society the preparations recently presented to the Dental College, by Dr. A. Preterre of Paris, France; which he kindly consented to do.

On motion the Association tendered their thanks to Dr. McKellops for interesting explanation of specimens.

The Association then took a recess of five minutes.

Association called to order at the expiration of the five minute recess.

Dr. Harroun, by request laid before the Association his method of taking impressions for cleft palate appliances. On motion a vote of thanks was tendered the Dr.

On motion C. M. Wright was appointed to make a report of further discussions.

No more business being brought before the Association the discussion on Materia Medica was resumed.

On motion, Mr Hall was afforded an opportunity to present his new blow pipe and heater.

A vote of thanks was tendered the gentleman for presentation.

Adjourned

Evening Session, 7½.

President Keely called the meeting to order.

Minutes read and approved.

Dr. J. Taft, presented and described to the association an apparatus for making corrundum wheels invented by Dr.

Danforth, also an automatic plugger invented and manufactured by Snow and Lewis of Buffalo, N. Y.

Dr. Shadoan presented an instrument for graduating the amount of rubber to be packed into rubber cases.

On motion Materia Medica was again continued in discussion.

On motion Drs. Geo. Watt and H. A. Smith were appointed a committee to conduct a series of experiments to determine whether arsenious acid is absorbed by the tissues of the body or the pulps of the teeth.

On motion adjourned till 9 o'clock A. M. to-morrow.

Third Day.—Morning Session.

Association was called to order, President Keely in the chair.

Minutes of previous session read and approved.

On motion the second subject (diseases of the teeth) was laid aside and the third, filling teeth &c., was taken up.

On motion the Secretary was instructed to record all minutes of previous meetings not recorded in the regular minute book and that he be sufficiently remunerated therefore.

Moved that the regular order of business be suspended upon the opening of the afternoon session to admit the reading of papers that may not relate properly to subjects under discussion adjourned

Afternoon Session, 1½ P. M.

Association met, President Keely in the chair.

Minutes of morning session read and approved.

On motion the society took up the following proposed amendment to the constitution presented by W. H. Shadoan, which was amended by Geo. H. Cushing and adopted.

Amendment to the Constitution.

Each individual member elected as an acting member of this association shall within one year sign the constitution and pay to the treasurer the sum of three dollars and annually thereafter the sum of one dollar, and those failing to pay their annual dues for two consecutive years shall forfeit their membership.

It shall be the duty of the corresponding secretary to send a notice of the annual meetings to each member at least one month previous to said meeting.

The following resolution was adopted, Resolved; That a committee of two be appointed by the president to examine and present to the association a revision of the membership roll, to report at the next annual meeting.

Wm. Taft and C. M. Wright were appointed a committee to carry out the foregoing resolution.

A committee of two, consisting of Drs. McClelland and J. Taft, was appointed to nominate delegates to the National Association.

On motion the Secretary was instructed to notify members comprising committees of their appointment.

The announcement by the president that reading of essays was in order Dr. H. A. Smith, read a paper entitled Minor Dentistry.

Dr. Talbert read an essay on the extraction of teeth, which lead to considerable discussion.

Resolved, That the thanks of the Society be tendered to Dr. H. A. Smith for his paper and that a copy be requested for the use of the society for publication.

The committee on nomination of delegates to the National Association reported the following names, C. W. Spalding, Geo. H. Cushing, B. F. Rosson, W. F. Merrill, W. H. Woodward, B. D. Wheeler, R. L. Evans, A. W. Maxwell, J. A McClelland, H. McCollum, C. M. Wright, W. G. Redman, C. C. Chittenden, W. H. Sedgewick, R. J. Poore.

The committee on inventions made the following report which was adopted.

The committee to examine and report on inventions and improvements in competition for the reward of the silver medals provided for at the last meeting respectfully report that they have examined a rubber graduate from Dr. W. H. Shadoan of Louisville, Ky., and an Automatic Plugger from Drs. Snow and Lewis of Buffalo, also a heater and blow pipe by Mr. Hall, which the committee was compelled to rule out on account of its being a patented article. All patented articles being prohibited.

The automatic plugger by Drs. Snow and Lewis we consider by far the best instrument of the kind that has ever come under our notice and to these having no assistant it is a valuable instrument.

The rubber graduate by Dr. Shadoan is certainly one of the most accurate and simple instruments for ascertaining the exact quantity of rubber for a piece of rubber work that we have ever seen.

A. S. Talbert, } Com.
W. H. Shadoan, }

Dr. J. A. McClelland, illustrated an original plan for a spittoon so arranged as to collect waste gold from fillings.

Report of Treasurer.

The following are the receipts and disbursements for the year ending this 22nd day of Feb. 1866.

J. Taft in act with the Miss. Valley Dental Association.

To amount on hand at last report,	$47 68
To amount of Annual dues to date,	30 00
To amount of Initiation fees to date,	60 00
	$137 68

Respectfully submitted,

J. Taft, Treasurer.

On motion an auditing committee consisting of Drs. Sedgewick and A. S. Talbert was appointed to examine the treasurers report.

On motion Drs. Shadoan, Mollyneaux and Cameron were appointed examining committee for inventions, improvements, &c. for the next annual meeting.

The following resolutions were adopted by the Association.

Resolved. That this association award a medal to the value of one hundred dollars for the most approved essay on alveolar abscess.

Resolved. That this association award a medal the value of one hundred dollars for the best essay on diseased antrum.

It was moved and adopted that a committee of five be appointed to examine essays, and that the committee be intrusted with power to reject all essays if deemed unworthy of a prize.

The president appointed Drs. Geo. Watt, H. A. Smith, C. M. Wright, G. W. Keely.

The committee appointed at the last meeting of the *Miss. Valley Association of Dentists* to arrange a device for a medal awarded to Dr. C. H. James, for best mechanical improvement would respectfully report: That they have had a medal prepared in silver, with suitable inscription upon it, for which they expended the sum of twenty dollars, the amount appropriated for the same. The medal has been delivered. February 22, 1866.

H. A. Smith, } Com.
C. M. Wright, }

Resolutions offered and adopted.

Resolved. That all dental and medical journals be requested to publish the proposition of this association to award the various medals mentioned in the proceedings of this society.

Resolved. That the committee on prize essays be governed by the same rules as were adopted in reference to the essay on anæsthesia at the annual meeting two years ago, and that those rules and regulations be published in full with the announcement of the prizes now offered.

Adjourned

Evening Session, 7½

Meeting called to order Pres. Keely in the chair.

Minutes read and approved.

Dr. Cushing of Chicago was called upon to read a paper which he had prepared entitled "Dental education."

A vote of thanks was tendered Dr. Cushing for his essay and a copy requested for publication.

On motion the President appointed Drs. J. C. Dean, C. M. Wright, A. A. Blount, N. W. Williams, H. J. McKellops and W. H. Sedgewick to prepare essays for the next annual meeting.

On motion the fourth subject for discussion was passed over and the fifth taken up.

Resolved. That the sum of fifteen dollars ($15) be paid the Janitor of the Ohio Dental College for services during the sittings of this association.

A vote of thanks was tendered the Reporter.

A proposition of Dr. Morgan, in regard to the best essay on health of dentist, accepted.

Society adjourned to meet on first Tuesday in March 1867. at 10 o'clock, A. M.

Wm. Taft, Secretary.

MASSACHUSETTS DENTAL SOCIETY.

We clip the following from a Boston paper.—Ed.

The annual meeting of the Massachusetts Dental Society was held at theSuffolk District Medical Society's rooms, in Perkins Building, Temple Place, yesterday, at 10 o'clock. In the absence of the President, the meeting was called to order by Dr. E. G. Leach. About fifty members were present from different parts of the State, and the forenoon was devoted to a variety of clinical operations upon different subjects, performed by N. C. Keep, M. D., of Boston, President of the Society; H. F. Bishop, D. D. S., of Worcester; I. J. Weatherbee, D. D. S., of Boston; L. D. Shepard, D. D. S., of Salem; Drs. E. G. Leach, and I. A. Salmon of Boston.

The afternoon was devoted to the election of officers for the ensuing year, reports of committees, &c.

The election of officers of the Society for the ensuing year resulted in the choice of the following: President, N. C. Keep M. D., Boston; Vice-President, Dr. E. G. Leach, Boston; Recording Secretary, L. D. Shepard, D. D. S.., Salem; Corresponding Secretary, E. C. Rolfe, M. D., Boston; Treasurer, S. G. McDougall, M. D., Boston; Librarian, E. N. Harris, D. D. S.; Executive Committee, I. J. Weatherbee, D. D. S., Boston, Dr. J. Y. Codman, Boston; Dr. Geo. T. Moffat, Boston, Dr. E. Blake, Stoughton, H. F. Bishop, D. D. S., Worcester.

H. F. Bishop, D. D. S. of Worcester, was elected to deliver the next annual address. A. Lawrence, D. D. S. of Lowell was elected substitute.

The Society then listened to the delivery of the annual address by Isaac J. Weatherbee, D. D. S. of Boston, which gave an extended and interesting history of the formation of the Society, its growth, objects and success, urging upon its members the importance of improving every opportunity of perfecting the science and of imparting to all who come under their treatment the necessity for their general health, of a proper care of their teeth.

After the delivery of this address, which was listened to with great interest and frequently applauded, a committee to make arrangments on the part of the Society for the proper reception of the American Dental Association, which is to convene in this city July 31, was appointed, consisting of the following: Drs. N. C. Keep, I. J. Weatherbee, E G. Leach, T. H. Hitchcock, I. A. Salmon, E. C. Rolfe, B. S. Codman, L. D Shepard and A. Lawrence.

The following were chosen delegates to the American Dental Association: Drs. Keep, Leach, E. N. Harris, T. H. Chandler, Hitchcock, Rolfe, McDougal, Moffat and Dotty of Boston; W. L. Bowdoin of Salem, O. F. Harris of Worcester and A. A. Cook of Milford.

The reports of the different officers of the Society show it in a flourishing condition in every respect. A number of valuable additions, by donation and otherwise, have been made to the library and cabinet, and their financial condition is very satisfactory.

At the close of the general business of their meeting the members of the society, together with a number of invited guests, repaired to the Tremont House, to partake of the annual dinner served in the enticing style for which the house is noted.

After due attention to the substantials and delicacies of the table, the repast of a higher order was commenced and continued until nearly seven o'clock, consisting of very happy after dinner speeches from the President, Dr. Keep, Drs. A. A. Gould, Horn, Weatherbee, Leach, L. D. Shepard, of Salem, T. H. Hitchcock, Calvin Page, Bowditch, Palmer and others. During the speeches of the dinner and discussions, while in the transaction of the business at their rooms, the attention of the society was frequently called by members of the dental and medical profession to the demand existing for the establishing of some permanent place where the two professions could meet frequently for mutual interchange of information, and where could be kept the publications on dentistry and medicine that are constantly being issued, to be accessible to physicians and dentists, and the hope expressed that the time was not far distant when New England would have a dental college, or that the professorship of dentistry would be soon added to the Boston Medical School.

After the transaction of unimportant matters of business, a discussion upon the best methods and means to be employed in filling teeth was engaged in very generally by the members of the society, at the close of which the meeting adjourned.

Selections.

MEDICAL TEACHING.

The following from the editorial columns of the *Boston Medical and Surgical Journal*, upon the subject of medical teaching and study, we regard as so directly to the point, that we suggest for it a careful perusal. So broad and extensive has become the field of medical science, that no one mind has the power of comprehending the whole, much less of elaborating it. The present rapid development in medical science, is largely, if not chiefly, owing to the fact that there is a focalizing of attention and study, upon particulars or specialities. Men do not now, as formerly, rest satisfied with the attainment of general principles, but taking these as a starting point, strike out in a definite channel, and in this way, make the wonderful discoveries and developments, which, during the past few years, have followed each other in such rapid succession.

Formerly, those who were regarded as great men were rare, for it required giant intellects to grapple with the whole subject, embrace it, and carry it forward. Now, a far greater proportion may become deservedly great, by selecting a particular department, and concentrating upon it his whole power, and thus bring out its fullest development.—Ed.

MEDICAL EDUCATION — NEW PROFESSORSHIPS IN THE MEDICAL DEPARTMENT OF HARVARD UNIVERSITY.

That medical education in America is rapidly changing its character may be seen by a glance at the long prospectuses sent out from the principal schools of our chief Atlantic cities. Until within a few years the whole public instruction of the student was limited to an annual four months' course of lectures, and the number of instructors everywhere corresponded to the six or eight general departments into which medicine had been divided for centuries. During the rest of the year he was left to manage his own education as he chose, and at the end of three years, a period of probation which was only nominally required by certain faculties, if he could pass a ridiculously easy examination in a certain proportion of these departments, he got his degree of Doctor of Medicine. With this necessarily general groundwork of knowledge, and without any proper clinical or special training, he went out into the world, either to make himself by observation, reading and natural shrewdness the really excellent, practical family physician, such as nearly every village in America may boast of, or to remain through life a very ignorant and cheap doctor. The few who fortunately had the means went at once after graduation to famous European schools, where medicine seemed a strange, almost new science to them, and where years might be spent in learning what was there taught in but a single subdivision of one of the old general departments.

Probably none were more sensible of, or more regretted the defects in our system of medical education, than those who have been professionally engaged in it here in New England, and efforts were made by them under the only general authority recognized, our national Association, to raise its character by a mutual agreement on the part of the schools in the country to insist upon a full three years' course of study and a more thorough examination before conferring degrees, but such a change threatened the financial prosperity of some of them by interfering with the chief source of their popularity, and nothing was effected. It was evident that without a central governing power all action in this direction must be individual. Harvard University had already taken the first important step by extending its course of instruction so as to cover the whole year in the medical, as in all its other great departments of study, and this system has been quite generally imitated within a few years by other large schools. It is, however, still non-obligatory, and although the summer sessions, so-called, are rapidly becoming more popular as their great importance is more widely appreciated, the custom remains everywhere in operation of conferring a degree upon any person who has had his name entered with any sort of a physician for three years and has bought tickets for eight months of lectures, provided he can pass a very simple examination in a certain number of the branches taught. In a country which boasts of its system of popular education as the best in the world, and where the interval which should always separate professional from general knowledge, if respect for the former is to be preserved, must necessarily be maintained by corresponding extraordinary progress in the former, in that country alone is medical education limited to the short term of three years. It has been found impossible, as has been said, to lengthen it by general agreement between the schools, but it should at least be made incumbent on their part that the most should be made of this brief period of training by using the whole year for instruction, and on the part of the student, that he should be obliged to attend the summer as well as the winter course. So much, we think, the American Medical Association may demand, and we doubt if any school now would dare object to a step which would not interfere with their own success and which would contribute so materially to elevate professional rank amongst us.

It should also insist upon students passing a satisfactory examination in every department before he can obtain a degree. If these branches, each and all, are considered as an essential part of a medical education, of course no person is fitted for practice until he has acquired the slight knowledge of them necessary to pass the examination at any of our schools. Full diplomas of Medicine Doctor are given, however, in cases where the candidate is so ignorant in the elementary branches of knowledge as to fail to pass in several of them.

Another and a far more important change in our system of medical education is the increase in the number of instructors in the schools within the last few years, It has become an impossibility for any man to know or to teach as a professor should, all that modern science has done in departments of medicine formerly included under a single head. In Europe it has long been the custom to divide and subdivide these branches, and instruction is there given not only by the numerous occupants of the regular chairs, but by so-called extraordinary professors and special instructors. Our own University has been among the first to recognize the necessity of labor, and has accordingly created the system of adjunct professors, assistant professors, and assistants, so that more than twenty instructors are now engaged in teaching in this department, in which several were considered sufficient, less than ten years ago.

Another Death from Chloroform.—A few days since another victim to this murderous anæsthetic died in a dentist's chair in the city of Philadelphia. An inquest was held upon the body, from the report of which, as we find it in the newspapers, we make the following extract:

"The evidence at the inquest was short, and unusually to the point. It was as follows:

"Mrs. Siemmers sworn.—I live at 1142 South Eighth street; I have known Mrs. Lyster several years; she called at my house requesting me to accompany her to Mr. Slack's, the dentist; she requested me because her sister was very nervous; this was a week ago; she asked Dr. Slack to give her chloroform; he said that he didn't use chloroform, and recommended nitrous oxide gas; she said she had taken chloroform before, and preferred it to anything else; an appointment was made for Monday at 2 o'clock. Witness accompanied Mrs. Lyster according to appointment; the doctor fitted the forceps to her teeth; Mrs. Lyster was extremely nervous; he put a cork between her teeth; he said that this was necessary; he then placed a cloth over her nostrils and dropped chloroform upon it; in a minute or two she turned deathly white and said she was very sick; she didn't speak afterwards, but went into convulsions and died soon; Mrs Slack came in, and we all rubbed her and tried to restore her, but it was of no use.

Dr. Wm. W. Slack, sworn—Testified that Mrs. Lyster called upon him a week ago to have some teeth extracted; she seemed exceedingly nervous and apprehensive of pain; she asked how pain could be avoided; witness suggested that she should take nitrous oxide; she said that she had taken chloroform before, and preferred that; an appointment was made accordingly, though witness refused to administer more than enough to paralyze the nerve—not to produce unconsciousness; this was after she assured me that she had no affection of the heart, nor any complaint that could be prejudiced by its use; bought the chloroform on Sadurday night; I gave to a little child on the same day a larger inhalation than that which Mrs. Lyster took.

Dr. Shapleigh testified that he had made a *post-mortem* upon the deceased. Every internal organ was perfectly healthy. There was congestion of the lungs and bronchial tubes. This may or may not have been the result of chloroform. — This closed the testimony. The verdict was a simple one — that

Mrs. Lyster died from the effects of chloroform, administered as an anæsthetic by Dr. Slack, in a very moderate quantity; that the deceased requested its application to allay the pain consequent upon the extraction of her teeth.

* * *

Chloroform.—The frequent fatal accidents from the administration of chloroform have had this result that the use of this anæsthetic is gradually being discarded by the profession. In Lyons it has not been used for years, and the medical society of that city has after long discussion, adopted unanimously the following conclusions:

1. Rectified ether employed as an anæsthetic is less dangerous than chloroform. 2. Anæsthesia is produced as regularly and completely by rectified ether as by chloroform. 3. Ether is in some respects less convenient in use than chloroform; but the inconveniences attending its use are of little consequence when compared with the dangers inherent in the employment of chloroform. 4. Consequently, ether should be preferred to chloroform.

* * *

A Human Curiosity.—The Berlin newspapers have the following curious paragraph: "A Hungarian girl, born at Oedenburg, without hands, now twenty years of age, has been giving some curious representations in the Prussian capital. She performs with her mouth the functions of her hands. She sews, embroiders, executes the most delicate work with pearls, even threads her needles and makes knots, all with the tongue, apparently without difficulty, and certainly without the assistance of any one. Part of the works thus executed are destined for public exhibition." Most people will hesitate to believe such marvels until they witness them.

* * *

ST. LOUIS ODONTOLOGICAL SOCIETY.

On the 26th day of Octobor 1865, a number of resident dentists of the city of St. Louis assembled and formed themselves into a society. A constitution and by-laws being adopted, the following officers were elected for the ensuing year:—

President, E. Hale, Jr. Vice President, J. Payne, Corresponding Secretary, G. G. Samuel, Recording Secretary, G. H. Silvers, Executive Committee, A. D. Sloan, C. W. Gill, J. Payne.

Knowing it to be indispensibly necessary that the dentist should possess a thorough and practical knowledge of the anatomical structure of the human system, as well as the practical functions of the various organs of the same, it was unanimously resolved, to immediately enter upon a course of anatomical studies, and to employ a competant person to deliver a course of such lectures, and to demonstrate the same in the desecting room.

Whereupon the services of the well-known popular and scientific lecturer and anatomist, Dr. John J. McDowell of this city were secured, and he immediately entered upon the duties assigned him, and he in a very able and satisfactory manner discharged said duties, having dissected two entire subjects during his course of study and instructions.

Stimulated by the manifest advantages derived from this course of study and instructions, the society are determined to continue on in the good work and prosecute their labors until they shall have acquired practical and scientific knowledge of the anatomy, physiology and pathalogy of the human system, and the cloud which has heretofore darkened and obscured many of the avenues to success in their professional practice, shall have disappeared before the light of science, when each member of the Odontological Society may be weighed in the balance, and not found wanting, but stand in the scale of respectability and usefulness on a level with the now more honored and learned Medical Profession.

Giving indubitable evidence that the St. Louis Odontological Society is founded, not in things perishable, but on the broad and immutible *fiat* of Nature.

G. Granville Samuel, Cor. Sec'y.
St. Louis Odontological Society.

AMERICAN DENTAL ASSOCIATION.

The sixth annual meeting of the American Dental Association will be held in Representatives Hall, State House, Boston, Mass., commencing Tuesday, July 31st, 1866, at 10 o'clock, A. M.

Arrangements have been made with the proprietors of the Revere and Tremont Houses to give extra accommodations to the number of one hundred and twenty-five or two hundred. Those desiring to engage rooms in advance can do so by addressing the undersigned, stating the style of room, single or double, or rooms, with expected time of arrival. In this way parties can arrange to be near one another.

No special invitations to operate at the clinic have been given. Those willing to operate are requested to come prepared. It is intended to have twenty or more chairs, so that a large number can be operating at the same time.

Some embarrassment has been experienced at previous meetings by delegates coming without credentials. In one case the secretary came with a certified list of a dozen or fifteen names of those whom his society had *elected* as delegates. Less than half of these attended, part coming at the opening of the session, and others on subsequent days—still others presented themselves as substitutes. As each man appeared, the secretary's report of the election had to be hunted up. To simplify and expedite this business, which, at best, causes delay in organizing, the Committee on Credentials recommend that each delegate be provided with a certificate to that effect, signed by the President and Secretary of his society, or one of them.

The profession in Boston and New England will give the Association a hearty welcome.

Let us have a full attendance.

L. D. SHEPARD, Salem Mass.
Corresponding Secretary.

Editorial.

A BILL TO REGULATE THE PRACTICE OF DENTISTRY.

At the last session of the Legislature of Ohio, a considerable number of petitions were presented to that body from members of the profession and the people at large, praying for such a law, or laws, as would, so far as possible, protect the people from dental quackery—from those who are manifestly deficient in ability, and influenced only by a desire for gain. Hundreds and thousands are made to suffer incalculably, by the practice of incompetent and mercenary men, who, without any proper knowledge, attempt to discharge the important, responsible, and difficult duties devolving upon the dental surgeon.

The object of such a law is two-fold. In the first place to protect the people from the worse than worthless operations of incompetent and unprincipled dentists; and second, to prevent, so far as possible, the incompetent from entering the practice of the profession. Such an enactment could in no sense operate oppressively upon the competent, but would certainly be a great stimulant to all such. The simple legal recognition of ones ability would be, to say the least, gratifying and encouraging.

Could it be possible that the ranks of the profession were to be occupied only by those of professional efficiency, the emulation that would thus be aroused can scarcely be imagined; then, indeed, would there be progress. Quackery serves almost as a dead lock upon the profession. It is perhaps true that one here and another there rises, to some extent, above its blighting influence, and by effort, involving a constant struggle, accomplishes something in the way of progress; yet, none are wholly free from its influence, and the greater proportion of the worthy part of the profession, are so hedged about by this incubus, as to be unable to move in the direction of progress. No one who is competent and successful in his practice, can, with reason, do less than sustain and labor for such a law; and no one with intelligence and good understanding among the people, will fail, for a moment, to sustain and advocate such a measure, when they clearly understand it.

No one can, with any propriety, oppose such a law, except the incompetent and quack. If by the legal knife, even a portion of the foul excrescence, that hangs like a body of death upon our noble profession, can be cut off, let it be exercised. But it is said that by this means but a part at best can be separated; that may be true, so it is also true that a man may swim with a twenty pound weight attached to him, while with fifty pounds he would sink and be drowned, indeed one pound may make the difference of sink or swim.

It has been suggested that such a law would not be enforced. We, wot of a few, who would be exceedingly glad of an opportunity to enforce such a law just now, a few who have become conscious that they have been made miserable for life, by mal-practice. There will be no more difficulty in its enforcement, than in that of any wholesome regulation. It is a law that none but the evil doers will have occasion to fear. It would, emphatically, be a terror to evil doers, and a praise to them who do well.

But it is said that "the people have a perfect right to select their physician or dentist." So they have, so long as that selection is made from those who are competent; but they have no more right to select one who would do them injury, or ruin their health, than they have to take arsenic, or strychnia, or shoot themselves; and the only apology that is possible to make for any one making choice of an incompetent dentist, is that they are ignorant.

But the principle, that ignorance should not tamper with dangerous things, is fully recognized in the legal restrictions that are placed upon the sale of poisons, gunpowder, &c. It is said that "the presumption is that any one who assumes a responsible position fits himself for that position." Yes! and that is about as true as that every man we meet is just what he ought to be. Everybody knows, that in all places there are men who are *not* what they assume to be, and not what others may *presume* them to be.

We propose, in the next number, to pursue this subject further, and consider what quackery has done and is doing, and the advantages that would accrue from a proper restrictive law.

We give, below, the Dental Bill, proposed, presented, and considered, in the Senate of the Ohio Legislature, at its last meeting. And we ask for it a careful consideration by the profession, and if in any respects it can be improved, let it be done—at least if it is thought advisable to again ask our Legislature for its passage. Other States are moving in the same matter, and if there is anything desirable in it, it will be well that our State should first reap the benefit; having first put the ball in motion.

"A BILL—TO REGULATE THE PRACTICE OF DENTISTRY IN THE STATE OF OHIO."

SECTION 1. *Be it enacted by the General Assembly of the State of Ohio,* That after the first day of September, 1866, it shall be unlawful for any person to practice dentistry in the State of Ohio, unless such person has received a diploma from the faculty of a dental college duly incorporated under the laws of this or any other State of the United States, or a certificate of qualification from the board of examiners, or any citizen of this State who has been in reputable practice of dentistry for the term of ten years.

SEC. 2. Said board of examiners shall be appointed by the governor, by and with the consent of the senate, and consist of three practitioners of dentistry, who shall be regular graduates of a dental college duly incorporated under the laws of this or any other State of the United States, or persons possessing the evidence of qualification contemplated in this act.

SEC. 3 The board of examiners shall serve for a term of three years, and until their successors are qualified, excepting the members of the first board, one of whom shall serve for one year, one for two years, and one for three years.

SEC. 4. The board of examiners shall meet at the capital of the State at least once a year for the purpose of examining applicants, after having given at least sixty days notice of such meeting in some newspaper of general circulation throughout the State. They shall also have power to make such arrangements as shall be necessary for the prompt and efficient performance of their work as such examiners.

SCE. 5. Each applicant shall, on receiving a certificate, pay into the treasury of the board, the sum of ten dollars, which shall constitute a fund to defray the expenses of the board, and out of the fund thus created, each member of said board of examiners shall receive the sum of ten dollars per day, for services rendered as such examiners.

SEC. 6. Any person who shall practice dentistry without having complied with the requisitions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than fifty dollars, nor more than two hundred;

provided, that nothing in this act shall be construed to prevent physicians and surgeons from extracting teeth.

Sec. 7. All prosecutions under this act shall be by indictment before the court of common pleas in the county where the offence shall have been committed, and all fines imposed and collected under this act, shall be paid into the treasury of the county where such conviction shall take place, for the use of the common schools within such county.

Sec. 8. This act shall take effect and be in force from and after its passage.

OBITUARY.

DROWNED, in the St. John's river, Florida, on the 4th of April, D. C. Ambler, M. D., dentist.

It is a sad duty to record the sudden death of a so highly respected and beloved member of the profession. Dr. Ambler practiced, for many years, in the city of New York; but, for the last few years has resided in Florida. His circle of acquaintances was large; and men of education, refinement, and worth, were numbered among his most intimate friends. His enemies were few, (and no great and useful men are without them), but they were chiefly, if not solely, of his own profession, envious of his reputation and success.

He was a favorite pupil of the venerable Dr. Valentine Mott, and graduated at the College of Physicians and Surgeons, of the city of New York. His love of mechanics and chemistry, aided by an inventive and fertile mind, enabled him to make rapid advances in dental surgery, which he chose as a specialty. He was awarded, in the year 1833, by the American Institute, a gold medal for artificial mineral, or porcelain teeth, the first awarded, it is thought, for any manufacture. He thus gave an impetus to this important and growing branch of dentistry, the growth of which has been so rapid, that it has become a specialty, giving employment, daily, to hundreds of busy hands. Sickness in his family called him away from this field of usefulness, to another in the Sunny South; leaving to others the laurels and riches which he truly merited.

I had the pleasure of meeting him in New York, last Fall, when on a visit from Jeffersonville. On that occasion he entertained me with an account of the many difficulties encountered by the early plodders in the field of dentistry, giving a history of his travels through the South, with a few incidents in the practice in this country, of the now famed Dr. Brewster, with whom he was intimate. I little thought, then, that it would be the last time that I should look upon his pleasant and genial face—the last time that I should listen to his cheerful and instructive conversation. Truly "in the midst of life we are in death." He was a sincere christian, a member and communicant of the Protestant Episcopal Church; and those left behind mourn not for him as those without hope—for, having finished his course in faith, he now rests from his labors. A. T.

At a meeting of the *Society of Dental Surgeons, of the city of New York*, held at their room, No. 24 Cooper Union, on the 25th of April, 1866, the death of D. C. Ambler, M. D., was announced to the meeting, when, on motion, a committee of three was appointed by the chair, to draft suitable resolutions on the exemplary character, and exalted professional worth of the deceased.

The unexpected close of an eventful life, in the career of enterprise and usefulness, cannot fail to arrest the attention of the most thoughtless, and shroud an appreciative community in the deepest gloom. Such was signally the case when the startling intelligence of the sudden death of Dr. D. C. Ambler, by drowning, on the 4th of April, in the St. John's river, Florida, reached us. In Dr. Ambler, we recognized an old familiar friend and professional brother, whom we all delighted to honor while living, and now sincerely mourn his death. Dr. Ambler was one of the Pioneers in the profession of dentistry, one who labored hard to elevate the standard of professional excellence; and the science and art of dentistry were materially advanced by his scientific knowledge and ingenuity; and to his experimental researches is our profession indebted for those improvements in mineral teeth, the manufacture of which has been carried on so extensively and with sech perfection in this country, therefore be it

Resolved, That this society show its affection for his many virtues, and appreciation of the bright example of our departed friend and brother, by placing on record these expressions of our bereavement, and sorrow for his departed worth.

Resolved, That our sympathies, true and heartfelt, are hereby tendered to the relatives and friends of the deceased, in this sad and inscrutable dispensation of Providence.

Resolved, That Dr. John Gardner Ambler, one of our members, and nephew of the deceased, be requested to address the profession, at such time and place as may be convenient to himself, in an *obituary* or *eulogy* of the deceased.

Resolved, That these proceedings be published in one or more daily papers of this city, and in the Dental Journals.

All of which is respectfully submitted.

T. H. Burras,
John Allen,
Chauncey P. Fitch,
Committee.

OBITUARY.

Died in the city of New York May 14th, 1866, Dr. S. L. Hamlen formerly a Dentist in this city.

Many years ago when Dr. Hamlen first came to this city, (Cincinnati,) he united himself in business with Dr. M. Rogers whom he suceeded in business some three years later at No. 3 West 4th Street, where he continued to practice until four years ago, when from failing health he was forced to retire from the Profession.

By persevering energy, close attention to business and a love for his profession, he built up a large and lucrative practice.

The last four years of active business in the open air recruited his failing energies, and seemed to promise him a new lease on life.

But he soon tired of his new business, and sought again his Profession.

Only a few weeks before his death he opened a Dental Office at No. 22 Bond Street, New York, with good prospects of success before him.

Though apparently fully restored to his former health an insidious disease was still lurking in his system, which at last ended his life.

H. R. S.

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Original Communications.

FILLING TEETH.

BY J. TAFT.

The conditions that modify success in the operation of filling are not usually apparent to the uninitiated. The query is often put forth by the patient: "Why is it that teeth decay so often after they are filled—and even when well filled, too?" This question cannot always be answered to the entire comprehension of the querist; for very few indeed of those who have not made the subject a special study possess the knowledge that must antidate the full understanding of it. And again, he who attempts to answer may fail to make any point well understood, either from a want of knowledge or efficient descriptive ability.

Of the circumstances that modify the permanency of fillings none is more apparent than the manner of the performance.

Fillings should always be so introduced, that all foreign subtances will be effectually excluded from the cavity of decay, and so far as possible cover and protect every point of dentine exposed by decay. This perfect adaptation is not in a great many cases obtained without difficulty, even by the best skill and experience. As evidence of this, discoloration and decay frequently occur beneath what was supposed to be good fillings. It is usually a good indication to find the dentine retaining its color about a filling. Many operators give great care and attention to secure great density of their fillings, and still fail in obtaining a perfect adaptation of the filling to the walls of the cavity. There is not, as a general rule, proper care exercised in introducing the filling, some avowedly are not scrupulous in filling up the cavity, but claim by making a thorough adaptation of the gold to its border, that all other substances will be excluded and the case is safe.

This many a time proves false however, for it only requires a slight disturbance of the gold at the border of the filling, or a slight fracture of the edge of the dentine about it to insure the recurrence of decay, and the ultimate loss of the tooth, so far as that operation is concerned. While, on the other hand, if the adaptation has been perfect throughout the introduction of the gold, it may be roughened or broken up on the surface, or the edges of the cavity broken or worn down, and still nothing can pass into the cavity, and decay does not occur within it.

How important then that every operator should train himself in this particular. The manner of doing this will depend somewhat upon the material employed. In the use of adhesive gold perhaps a little more care is required to secure a perfect adaptation than with good non-adhesive, yet it can be accomplished with either by proper skill. In the introduction of adhesive gold, the ordinary round or square serrated instrument employed for condensing the body of the filling should not be relied upon for condensing to the walls of the cavity, but thin wedge shaped serrated instruments should be used; these should vary in width corresponding somewhat to the size of the cavity, forcing the gold most perfectly upon it, and especially upon approaching the orifice.

PROFESSIONAL CHARACTER.

Read before the Northern Ohio Dental Association.

BY F. S. SLOSSON, D. D. S.

Gentlemen of the Northern Ohio Dental Association:—

It is with feelings of gratitude we acknowledge the good providence of God which has brought us through the vicissitudes of another year to this our annual meeting.

We are now to look over, criticise, and improve the past; and from this more elevated stand-point, peer into the future, that, if possible, we may see more brilliant light, and more glorious success ahead. In looking back over past years of trial, toil and doubt, we discover, perhaps, much that we could wish obscured from sight and memory. But every trial and success, yes, and every failure, too, has done something to elevate us to our present high position.

The dental profession of Northern Ohio have not been a whit behind the vanguard of any other section of our country, so far as the practical application of true principles to successful and desired results in treating teeth are sought.

Modesty might here forbid my particularizing; yet I may say that nowhere have there been earlier or more persistent and successful efforts and experiments made, than those made by the elderly members of this association, to treat, restore, and preserve the natural dental organs; but it affords us very great satisfaction to contemplate the younger members, and the facilities they now have for improvement and progress;—that where we had to creep, they may run; that where we had to grope in the dark, they may walk in meridian sunlight. But all this experience and knowledge, all this skill and these facilities will fail of the desired results, unless accompanied with a high professional and moral character. I, therefore, suggest the subject of professional character.

What, then, is character? The personal qualities of a man are his real, private, undeveloped character, naked and open only to the eyes of Him with whom we have to do. In proportion as these are good or bad, so is his real character good or bad. The development and exhibition of these qualities constitute the visible character of a man, which will be either good or bad, as these several qualities control his actions and they will inspire our confidence, and draw out our sympathies towards him; or they will incite distrust, and repel, or render formal and distant our intercourse. Hence we say, character is the representation of a man, as to personal qualities, because this is all we see or know of him.

What distinguishes one man from another, but the representation of different personal qualities? Character gives authority to the words, and importance to the decisions, of one person above those of his fellow. This fact is felt and acknowledged in all our intercourse with mankind.

That our profession should have a character as distinctly marked as that of law, medicine or divinity, will not be questioned by any one. I repeat, then, character is the representation of a man as to personal qualities. There may be associated as well as individual character.

Associated character is the combining of the personal qualities of different individuals, whether harmonious or discordant, high and refined, or low and deceptive, the development of which will give to this combination or association its true character.

If this is so, then we are to feel ourselves personally responsible for the cultivation and possession of those qualities which will elevate us as individuals, and thus elevate the profession at large.

Actions are the manifestations of character. Persistence is the quality that does most to establish it. In the language of another, character indicates the degree in which a man possesses creative, spiritual energy—is, in short, the only expression of the man—the person. The man who possesses knowledge, energy and skill, accompanied with high moral qualities, is the man who will do most for the profession. He possesses true dignity, has little of selfishness, and is above those jealousies and bickerings that disturb little minds, who are in constant fear lest some one should be benefited by coming in contact with them. He is accessible to all; and his opinions are anxiously sought, and as freely given. He secures his own by seeking the public good. His design is, that all he does shall be well done; and if he fail, as sometimes the best will do, he is ready to make it good. His charges are neither too high or too low, as either extreme destroys confidence. In short, he is governed by that higher law of doing as he would be done by. Such a character is the product of honest culture, is an honor to the profession and to mankind, and its reward is on high. But how strangely in contrast is such a character with that ignoramus, whose advent into a town is heralded by a shower of cards, bills and advertisements, found in every vehicle in our streets, in every door-yard, and under every door, proclaiming the thousands of teeth set and filled during the last few weeks, inviting the community to improve this opportunity, as they may never see his like again!

Such a man deals in base metals, soft solder, soft soap, and has a softer head. His patients pay a higher price, in proportion to value received, though he charge but two and sixpence per plug, and a bit or a picayune for extracting; he being a bit of a picayune man, the perfume of his soap is exceedingly attractive with a certain portion of community whose ideas assimilate his own. Such a man is the product of the enemy's sowing, a disgrace to the profession and his kind;—whose end is to be burned. Between these two men, we have every shade and grade of character. We are glad to know the number who approximate the first is daily increasing. Yet it is lamentably true that our profession is clogged in its upward flight by a multitude who are nearly assimilated to the latter.

I said that actions are the manifestations of character. It is not one or two great, good or noble acts that make or establish the character of a man. It is formed only by numberless little acts. As dust shows the way the wind blows, so do the little acts of a man indicate more truly his real character than great ones. One little act does but little, seemingly, to establish a good character; yet it does very much in destroying it.

How quickly do we form an opinion of a man from his advertisements! Is it not that they are so unlike those of other professions? We are prone to ride a hobby of some kind, and the personal pronoun is the motive power; as, for instance, "I extract teeth with a peculiar kind of an instrument without pain." "I destroy the nerve without pain." "I plug over exposed nerves." "I hammer in my plugs with a mallet." "I put in porcelain plate, and I do all kinds of work."

To all this is added the testimony and recommendation of some professor, clergyman, lawyer, or surgeon. Now all this savors of quackery; and the longer and more numerous the recommendations, the greater the humbug. The fact is, if we are riding a hobby of any kind, it will be likely to appear in our advertisements, with head and tail up.

Character is the embodiment of the acts of a man. Persistence is that quality that does most to establish it. It is the stream that has longest run that has made the deepest cut in the mountain rock. So it is with this quality. It is the persistence, the tenacity which holds a man to his work, that makes the strongest mark upon him.

How often do we see men of the most brilliant minds, and fertile imaginations, fail to make or establish a character that does not expire with their breath; and for the reason they do not possess this quality to any considerable extent. While, on the other hand, we see men of moderate attainments, and less brilliant minds, engraving their names and their characters on a nation's heart, and in a nation's history.

Persistence in a good enterprise inspires confidence. It shows the man in his true character, that he is tenacious of his principles, and proud of his profession; while his opposite is all things to all men, and of little account to any one.

This quality is the more effective for evil than for good, because of the downward tendencies of our nature. It is persistence in an evil course that has furnished the victims for our prisons and the scaffold, forcing, yearly, thousands of intemperate men down to drunkard's graves.

I have dwelt the more on this quality because of its importance, and of the results which might be accomplished, if each individual in the profession would persistently pursue such a course as would fit him for his work, and make him an honor to his profession. Let a young man determine that on the next tooth he would spend all the time and care necessary to excavate and prepare it for the reception of the gold, then introduce slowly, and condense thoroughly, until it could not be punctured with the point of a sharp instrument, then burnish and polish until he could say, I have done the best I could, and thus proceed with the next and the next, holding to his determination, would it be long before he would stand in the front rank of the profession in this department?

There are three things necessary to the attainment of a good professional character, viz: an object to be aimed at, the means by which it is to be attained, and persistence in the use of those means.

If a young man aims to be first in his profession, his object is a noble one, and is attainable, if he improve his time, and the means within his reach, (and they are a thousand fold more now than when some of us commenced,)—if he tenaciously hold to his determination, and to his work, until it becomes the object of his highest aspirations. As another has said, "The true merchant, the true statesman, the true military commander, becomes a man of character only when he puts on and identifies himself with his particular profession or art."

The want of this application, and this personal identification with the object in pursuit, is a reason why so many accomplish so little, and rise no higher in the profession. It is also the reason why so many resort to those mean and deceptive practices which are a perfect infliction on the community, such as extracting teeth because difficult to plug; plugging cavities that are accessible, and leaving those that are not; taking out plugs which are preserving the teeth, for the sake of replacing them; putting in plugs of gold that are two-thirds tin; putting in plates of gold which are such only in appearance. These are little things; but they are things we have often seen, and they as strongly indicate character as larger ones. Any such resort shows the man to be wanting in one essential quality of a good professional character, viz: self-respect. Inasmuch as his design is to get from his brother, in this low way, that which he might have by honorable procedure. This is taking a dollar and cent view of the whole practice. The aim is low, and the practice lower.

When a patient takes our chair, he commits to us a personal trust, not of dollars and cents, but a trust infinitely more sacred; and any person who does not feel its responsibility, and is recreant of this trust, is unfit for his position, and unworthy of a standing in our profession. "Brethren, we are persuaded better things of you, though we thus speak."

No man has attained to eminence as a military man, lawyer or physician, but by long years of toil, trial, and embarassment in the primary principles of his profession. Every step in his progress has been attended by unforeseen difficulties, which he has mastered, and thus, step by step, has he followed his own aspirations to the summit of human glory.

While another one, surrounded by circumstances equally, or more advantageous, whose aim is low, has hardly a respectable standing in his profession. Why is this? The one relies on his own native energy, upon improving every means in his power, learning something from every one; while the other relies more on the accidental circumstances which surround him, or on some title of D. D. S., M. D., or D. D. Esq. All of which are good and gratifying, and always retiring when worthily received. But these are his advertisements—they stand out in bold relief and are the first things seen, and his capital. They are also the true indications of his character.

It is said of Daniel Webster, that on receiving his diploma, he retired, and in the presence of his classmates tore it in pieces. Whether this is true or not, it is eminently true that he relied upon his own native energy—that he laid with his own hands every stone in that foundation on which was to be built the character of that illustrious statesman.

The dental profession is in its infancy. Its members have been in years past like men deep down in some dark mine—each one working and carrying his light on his own head, borrowing none and reflecting none. But I rejoice to see an elevating power—a germ of progress, the adoption of those principles which are to place the profession in a high position of usefulness, dispersing the gloom of that narrow-minded selfishness, which dries up and shuts up all the hidden and nobler qualities of the soul.

The dental colleges and periodicals, the dental associations and conventions, the social gatherings, and free interchange of views of practice and kindly feeling, all speak well for progress in dental science, and serves to augment the stream of blessings which shall add immeasurably to the happiness and duration of human life, as it flows on to ages yet to come.

There are now facilities for improvement of which a few years since we knew nothing. The veriest sprig in the profession feels its influence, and straitens up himself to be more of a man.

It makes us wish to forget the past, and begin again. But as without the past there could be no future, and as every elevation must have some means of ascent, we will rejoice if the past be made the stepping stone by which any shall rise to higher attainments, or to a more lofty eminence.

Brethren, in leaving the chair, I thank you for the expression of your confidence in placing me in it; and hope the same harmony and good feeling may characterize all our future meetings.

ALVEOLAR ABCESS.

[Read before the Indiana State Dental Association.]

BY DR. A. MOORE.

The pathologist is able to trace several distinct stages of this disease from its incipiency to its termination of final cure. Its first, which is increased vascular action, may be denominated a strong determination on the part of the vascular system to do more than its capacity will allow, which fact results in congestion, a true disease, characterized by an increased amount of dark blood passing sluggishly through the veins and capillaries until stagnation is the final result.

Inflammation of the pulp which may arise from a variety of causes, is most generally induced to a considerable extent; in this stage of the disease of the periosteum it is modified somewhat by the diathesis of the patient; being most likely to supervene in strumous and scrofulous habits. What ever may be the cause, the symptoms attending it are generally the same. At first there is a sensation of uneasiness and a feeling of fullness, with a desire to press the teeth together, and unless arrested the pain increases, becoming dull, heavy, and continuous, being an effort of the distended vessels to void themselves of their contents, by the transudation of the watery fluid of the blood into the surrounding tissue, causing it in common parlance to "swell or puff up." The treatment at this stage is local depletion with the lance or leech, accompanied with anti-phlogistic remedies; but prior to this it may be expedient to use cold application, as ice held in contact with the gums, which acts as an astringent, contracting the blood vessels and diminishing the quantity of the blood to that particular part Iodine has a very salutary effect when applied over the end of the root involved; the nitrate of potash introduced into the pulp cavity acts as an arterial sedative, and when followed up by the anti-phlogistics the disease is quite certain to succumb.

But should it pass on to violent inflamation, which is characterized by an increase of temperature and more violent pain, spreading to the surrounding tissues, involving the entire side of the face, the bloodvessels are increased in size with the quantity and rapid motion of the blood, with a tendency to stagnation at points caused by the clogging up of the veins and capillaries by the red corpuscles which are more closely packed in consequence of the watery fluid passing out. In an advanced stage of inflammation the swelling is due to an effusion of lymph, and an abnormal growth from its organization, which cause the tooth to rise in the socket in consequence of the density of the contiguous parts. As the disease advances the pain is of a pulsating character, owing to the compression of the nerves and exalted sensibility. So much so that great pain is felt when the tooth is touched. The heat in the inflamed part rises above the normal standard caused by the waste and oxidation of the tissues.

When the disease has reached this stage two kinds of treatment are indicated: first, to induce resolution by the course of treatment adopted for congestion: second, if this fails, hasten to bring about suppuration, which is done by the use of hot applications, roasted figs should be applied to the gums, and a poultice made of hops and laudanum to the cheek as an anodyne and soporific,

The effusion of lymph which always accompanies inflammation as it advances, is of two kinds, plastic or fibrous, and the corpuscular. The first, according to Atkinson, is the true lymph, and capable when in contact with living healthy tissues and in the hands of a skillful surgeon, of organization and giving back to the patient parts quite as perfect as ever.

The corpuscular or second kind is not capable of organization, and instead of fibers contains exudation corpuscles; which evidently must undergo one more process, for no visible change has yet taken place in their color—which does follow after the periosteum has become detached, and a sac is formed for the reception of pus, which is the next change. Whether this quality of lymph is dead, matters very little, as it is not susceptible of being again appropriated, or influenced by the life-giving principle, and organized again into living tissue. It must follow, then, that this condition of pus cells is best suited to be thrown to the surface and cast off by nature, not being able to discern any disposition upon her part to relieve herself of it, until it has assumed this character. As soon as it is formed it immediately seeks an outlet, and usually takes the most direct course to the surface, particle after particle giving way by pressure or the degenerating effects of pus cells in contact with the living tissues until it reaches the surface, when relief is immediately felt, and the swelling in the face gradually subsides.

After the puss is discharged and no treatment instituted, a chronic form will ensue, and the sac will again fill and discharge, in frequency according to the habit of the individual. There are various modes of treatment at this stage of the disease. The most efficient of which is to remove the exciting cause which is most likely to be the dead pulp or gaseous matter confined within the pulp cavity. This should be thoroughly cleansed, and if the fistulous opening still remaining opposite the diseased root, pump creosote and tincture of iodine in proportion of three of the former to one of the latter, through the apex of the root by means of a broach wrapped with cotton and dipped into the drug until the cauterizing effects of it are seen at the mouth of the fistula.

A few days of treatment of this kind and the sac is broken up, and will be speedily absorbed, when the periosteum will again become united to the bone, by the plastic lymph being thrown in the form of adhesive plasm. When the root is ready for filling, which should not be overlooked if you would not have your skill and labor in vain.

CODE OF DENTAL ETHICS.

(Adopted by the Ohio State Dental Association.)

ARTICLE I.

Duties of Dentists to their Patients.

1. As far as possible the dentist should be always ready to respond to the wants of those requiring his services. He should fully recognize the responsibility resting upon him in the discharge of his duty. Faithfulness in the performance of his operations depends chiefly on his own sense of right, rather than the patient's ability to judge of their character. He should bear in mind that the comfort, health, and, to some extent, the lives of his patients are committed to his charge, and depend upon his skill and faithfulness. He should manifest a kind and sympathizing disposition, combined with firmness in doing that which is right. He should exercise proper authority, as far as his knowledge and judgment will warrant. His whole deportment should be such as to secure respect and confidence.

2. He should treat every case committed to his care with attention, humanity and firmness, remembering that most of his operations are performed on living tissues, and may produce great suffering. He should make due allowonce for the want of accurate knowledge on the part of his patient of many things which seem so clear to himself. He should al-

ways exhibit to his patient a correct deportment, in all his bearings, and in nothing more than in his statements to them in regard to professional matters. These should be not only true, but clear, and calculated neither to magnify nor to diminish—to represent a case neither as more nor less difficult than it is. He should not promise certainty when, in the nature of the case, there is uncertainty. His deeds, rather than his tongue should declare his ability.

3. To insure to his patients the best results, the dentist should aim to secure, and to preserve in himself, both physical and mental health, avoiding influences calculated to unfit him for achieving the highest attainments. He ever needs a clear head, a pure heart, and strong hands.

ARTICLE II.

Maintaining Professional Character.

1. When a man enters the dental profession, as he becomes invested with its privileges, so he incurs all its obligations. He is bound to maintain its honor and to labor earnestly to extend the sphere of its usefulness. He should avoid everything in language and conduct, calculated to discredit or dishonor the profession, and should show all due respect to his brethren, especially to his seniors.

2. The dentist owes, both to his profession and his patients, the duty of maintaining a high-toned moral character. He should also cultivate genteel manners. Any lack of neatness and cleanliness, either in person or in office arrangements, is disrespectful to his brethren, as well as to his patients.

3. It is unprofessional to resort to public advertisements, cards, handbills, or posters, calling attention to peculiar styles of work, lowness of prices, special modes of operating, or claiming superiority over neighboring practitioners, publishing reports of cases, or certificates, in the public prints, going from house to house to solicit or perform operations, circulating or recommending nostrums, or performing any other similar acts.

4. When a dentist is consulted by a patient of another practitioner, he should practice due caution in regard to inquiries or hints disparaging to the family dentist, or calculated to weaken the patient's confidence in him; and, if the best interests of the patient will not be sacrificed thereby, the case should be temporarily treated, and referred back to the family dentist.

5. When practicable, some general rules should be adopted, by members of the profession practicing in the same localities, in relation to fees; and it is dishonorable and unprofessional to depart from these rules except when variation of circumstances requires it. And it is ever to be regarded as unprofessional to warrant operations or work, as an inducement to patronage.

ARTICLE III.

The Relative Duties of Dentists and Physicians.

Dental Surgery is a speciality in medical science. Members of both professions should bear this in mind. The dentist is professionally limited to diseases of the dental organs and the mouth. With these he should be more familiar than the general practitioner is expected to be; and, while he recognizes the superiority of the physician, in regard to diseases of the general system, the latter is under equal obligation to respect his higher claims, in reference to his specialty. Where this principal governs, there can be no conflict, or even diversity of professional interests.

ARTICLE IV.

The Mutual Duties of the Profession and the Public.

Dentists are frequent witnesses, and, at the same time, the best judges of the impositions perpetrated by quacks; and it is their duty to enlighten and warn the public in regard to them. For this, and for the other benefits conferred by the competent and honorable dentists, the profession is entitled to the confidence and respect of the public, who should ever discriminate in favor of the true man of science and integrity, and against the empiric and impostor.

Proceedings of Societies.

INDIANA STATE DENTAL ASSOCIATION.

REPORTED BY BENJ. D. HOUSE.

The above organization met, pursuant to adjournment, at the rooms of the Young Men's Christian Association at Indianapolis, Ind., Tuesday, June 26th, 1866, at two o'clock, P. M.

Present—Drs. C. C. Burgess, E. M. Morrison, J. B. Harlan, A. E. Purcell, J. Knapp, W. R. Webster, A. T. Keightly, M. Wells, G. A. Wells, and J. F. Johnston.

In the absence of the President, the meeting was called to order by Vice-President Burgess.

Dr. Morrison, Chairman of the Executive Committee, submitted the following report:

ORDER OF BUSINESS.

1st, Reports of committees; 2nd, Admission of members; 3d, Election of officers; 4th, Retiring President's address; 5th, Installation of officers; 6th, Reading of original essays; 7th, Discussion of the following topics in order:

1st, Dental materia medica, including anæsthetics; 2nd, Exposed pulp, alveolar abscess, sensitive dentive; 3d, Extraction of teeth; 4th, Gold filling; 5th, Tin and other cheap fillings; 6th, Dental fees and ethics; 7th, Vulcanized rubber and other artificial appliances generally; 8th, Dental progress and new inventions; 9th, Miscellaneous business.

On motion the report was accepted and the committee discharged.

On motion, the following Committee on Membership was appointed by the Chair to report at once: Drs. Johnson, Wells, and Keightley.

The committee reported the following names as candidates for admission to the Association:

Drs. H. H. Morrison, Greencastle; S. M. Cummins, Elkhart;

J. K. Jameson, Shelbyville; J. D. Robertson, Dublin; W. L. Heiskill, Indianapolis; J. M. Ball, Centreville; W. H. Gilbert, Peru; N. H. Allen, Anderson; W. F. Morrill, New Albany; M. Strong, Indianapolis; E. Totten, Crawfordsville; M. H. Chappell, Knightstown; T. H. Martin, Lebanon; G. W. Cast, Thornton; Wm. Glenn, Muncie.

On motion of Dr. Knapp the rule was suspended and a vote taken *vive voce.*

The candidates were unanimously elected.

On motion, Dr. Pierce, of Philadelphia, was elected an honorary member of the Association.

The Secretary stating that it was absolutely necessary for him to be absent for the evening, Dr. Gilbert was appointed Secretary, *pro tem.*

The following officers were elected to serve for the ensuing year: President, Dr. Knapp, of Fort Wayne; Vice-Presidents, Dr. Webster, of Richmond; Dr. Morrill, of New Albany; Dr. A. E Purcell, of Indianapolis; Secretary, Dr. J. F. Johnston, of Indianapolis; Treasurer, Dr. G. A. Wells, of Indianapolis.

On motion, the Association adjourned until 8 o'clock, P.M.

First Day—Evening Session.

The Association met promptly at 8 o'clock.

The meeting was called to order by the President.

Report of the afternoon session read and approved, after which the following names were presented and accepted for membership: Dr. J. S. Snoddy, of Lafayette, and Dr. J. E. Swallow, of Indianapolis.

On motion, the regular order of business was taken up.

The essayists appointed to read essays before the Society not being prepared, Dr. Merritt Wells was continued as such until the next annual meeting.

An amendment was made that Dr. Wells should present his essay on the following morning.

Dr. Moore, of Lafayette, then read an essay on "Alveolar Abscess", in which the subject under consideration was ably canvassed, and various remedies for this disease were mentioned according to the ideas and experience of the essayist.

On motion, the thanks of the Association were tendered to Dr. Moore for his able essay.

Dr. Webster, of Richmond, then raised questions in regard to certain opinions given by Dr. Moore.

After which a general discussion of the disease under consideration took place, in which various members of the Association participated. The question was discussed to considerable extent, and various members of the Association gave a synopsis of their treatment of the disease. Dr. Morrison, of Noblesville, read a statement of a case that came under his care, and his manner of treatment and the remedies used which effected a radical cure; after which several members expressed opinions in regard to various questions raised by the reading of the statement of Dr. Morrison.

On motion of Dr. Morrill the Association adjourned until 9 o'clock the following morning.

Second Day—Morning Session.

The Association met, pursuant to adjournment, and was called to order by the President.

The Secretary then read report of the previous day's proceedings.

On motion, the report was accepted.

The regular order of business was then taken up: 1st, Examination of candidates for admission to the Association.

On motion of Dr. Webster, Dr. Moore was requested to furnish a copy of the essay read the previous evening for publication.

On motion Dr Forbes, of St. Louis, who was in attendance, was elected an honorary member of the Association.

The unfinished business of the previous evening was then taken up—the consideration of the alveolar abscess.

A general discussion then took place, in which several members participated. Dr. Chappell then presented several specimens of bone for examination extracted in an operation on a case of the disease under discussion. Causes and effects of said disease were then quite ably and generally discussed. The case reported by Dr. Chappell was canvassed to a considerable extent, in which various different opinions were expressed by members of the Association.

Dr. Keightly then stated a case similar to that reported by Dr. Chappell, manner of treatment, &c., which elicited further discussion.

Dr. Wells then stated a case at present under his care, in which the inferior incisors were absent and a portion of the bone seemed detached, being movable and presenting a porous and blackened appearance. The movable piece wedge-shaped, apex downwards. Asked advice in regard to its removal. The gum at certain points seemed firmly attached at the lower portion of the loosened bone. Inquired in regard to the proper treatment. Was able to present the case in a very clear manner by the use of a casting of the case under consideration.

Dr. Johnston responded, stating that from the concise manner in which the case was presented that it was nearly as easy to diagnosis the case as though the patient were present. In his opinion it was a clear case of necrosis. His treatment of a case of the kind described would be the removal of the diseased portions of the bone by the use of bone forceps and chisels, or whatever instrument most convenient for the accomplishment of the desired object. Considered it absolutely essential that every portion of the diseased bone should be removed, if possible. Where the periosteum was firmly attached it would be sufficient evidence of the part in question being in a healthy condition, hence this should be made the line of demarkation.

The Doctor recommended such constitutional treatment as the patient seemed to require—the use of tonics, &c. The question was raised, was it properly in the province of a dentist to prescribe such remedies.

The Doctor admitted that there was a difficulty. Still, it might be done if the dentist was in good standing in his profession. By consulting with the family physician his advice as a general thing would be taken. In the absence of a physician the dentist might with perfect propriety prescribe in the premises.

Dr. Webster coincided with Dr. Johnston with the exception of treating the patient with tonics. Did not think it in the province of a dentist to do so.

Dr. Johnston differed from him in all cases where the family physician could not be consulted, and where he was sure of the proper remedies.

The Chair then made some remarks in regard to the subject under discussion, and called for an expression of opinion from Dr. Forbes, of St. Louis, who responded in remarks of a clear, concise nature, coinciding and endorsing Dr. Johnston's manner of treatment, stating his experience in several different cases and his manner of treatment.

Dr. Forbes has the faculty of saying what he wishes and making himself understood in a manner not to be mistaken.

The Chair then called on Dr. Forbes to give his manner of treatment of alveolar abscess and filling of cavities.

Dr. Forbes responded, and entered at some length into his own experience and manner of treatment of the disease under consideration. Gave a statement of the Association Meeting at St. Louis. Remarked that few liked to state their failures, yet as much was to be learned from failures as from successes.* He, being the oldest member of the profession at the St. Louis Convention, told of his failures, and other members followed suit. One man made a statement which proved him one of the most consummate scoundrels extant. If there were any scoundrels present the Doctor wanted them to tell of it. (The man was only a scoundrel in not understanding his profession.)

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*Can not agree with this statement.—[Ed.

The remarks made by Dr. Forbes elicited questions and remarks from Dr. Johnston and others, which were answered by the Doctor, some of them in a manner that created considerable mirth.

Dr. Johnston was then called upon and gave his experience and manner of treatment of the disease under discussion.

General remarks were elicited by the statements of Dr. Johnston, in which several members of the Association participated. The manner of Dr. Johnston's treatment was quite generally endorsed.

On motion the further discussion of the subject of alveolar abscess was discontinued, and the next subject in order taken up.

Dr. Wells was called upon to furnish an essay as per resolution of last evening upon the subject of Anæsthetics. Not being prepared with a written statement, he gave a verbal account of his understanding of the subject. His remarks were plain, and gave evidence that the speaker had studied the subject, although not prepared with a written essay.

Dr. Wells asked for the experience of any member who had used nitrous oxide.

Dr. Keightley responded, and gave a description of its effects from personal experience, giving quite a facetious description, which caused some visible smiling.

Dr. Knapp then stated a case treated in this manner that recently came under his notice.

A general discussion then took place.

Dr. Burgess made some remarks in regard to the use of chloroform. Thinks it has been too much decried. Personally prefers it to nitrous oxide. Asked how many deaths from the use of chloroform had come under the notice of the Association during the past year? No response. Stated the symptoms of the patient under the influence of chloroform. Didn't think it desirable to give patient a sufficient quantity to make him perfectly insensible. A general discussion followed.

Dr. Johnston made remarks upon the subject at some length.

Question asked Dr. Johnston.—Do you administer stimulants after giving chloroform?

Advised its not being given until *after* the use of chloroform. The chloroform in itself acts as a stimulant at first, and the patient being naturally depressed after its influence passes off, needs toddy then if at all.

Dr. Morrill enquired of Dr. Forbes if it was not the usual practice in St. Louis to administer "toddy" previous to administering chloroform.

The Doctor answered that he was ready to give that mode a personal practical test on the spot. After which he spoke at some length; stated his experience and mentioned some very interesting cases.

Dr. Forbes thinks it better to use "toddy" after the chloroform is administered, if at all.

On motion, the meeting adjourned until 2 o'clock, P. M.

* * *

SECOND DAY—AFTERNOON SESSION.

The meeting was called to order by the President at 2 o'clock, P. M.

On motion, Dr. Purcell was invited to state his experience in the use of nitrous oxide gas. He did so at some length. Uses it almost entirely.

The question of adjournment was then called up by Dr. Moore, and a motion was made by him that the Association adjourn after the night session that P. M.—Carried.

On motion, topic of extracting teeth was ommitted, and the next in order taken up—gold filling.

Dr. Forbes was called upon to speak upon this subject but declined, and Dr. Moore opened the discussion. Had rather listen to persons of more experience than to speak himself. Has been in practice fourteen years. Thinks he has made great advances. Uses adhesive and sponge gold. Carefully clears the cavities. Commences the filling by introducing adhesive gold into the pit by the use of the mallet, gradually building up. Having teeth well separated. If he finds any deficiency, builds on them. Used soft foil two years ago; uses adhesive foil altogether now. Only objection length of time required to perform the operation.

Question by the Chair—Should time be considered, if the results justified.

Answer—Not if the patient was able to pay for that time.

Dr. Morrill then took the floor and stated his opinions. Believes in making thorough excavation of all cavities. Used a diamond-pointed drill; uses Dunlevy's gold foil No. 3; commences the bottom with anchorages of gold foil. In large cavities thinks four or five anchorages should be made.

Dr. Johnston was requested to take the floor. Advocates use of non-adhesive foil for filling crown cavities in molars and condenses with mallet as he goes. Thinks that one method only should not be entirely depended upon. Thinks as a general thing the non-adhesive gold condensed with mallet makes more perfect work than with adhesive filling, in a large class of cavities. Thinks building out can be done only with adhesive gold; thinks, however, that in most cases building out is not desirable, being too attractive and not sufficiently lasting.

Dr. Forbes then took the floor and explained his system by diagram. Asked Dr. Johnston to explain manner of filling a given cavity.

The Doctor gave his opinion; was questioned in regard to the depth of a cavity required in order to fill with cylinder. In filling an inferior molar would take a wedge of hard wood, drive between, separating the teeth and pressing back the gums, then uses paper and napkin for the purpose of absorbing the saliva and closing the ducts. If a superficial cavity would fill with adhesive gold. Explained his system with a tooth, which elicited many questions, and were answered by diagramatical explanation.

The President then explained his method. Uses adhesive gold—nearly all crystal gold foil condensed with mallet. Has but one mode, to excavate carefully and fill up as above decribed.

Dr. Forbes then explained his system by diagram, which cannot be reported unless by drawing. When he cannot see the whole cavity, breaks away the enamel until it can be seen. Makes the walls nearly upright; uses a cone drill; always cleans off the outside of the teeth at the start. Has cylinders made of all sizes; prepares them when he has nothing else to do; places the cylinder in the cavity and then "sends it home." Uses but one kind of gold; the price of gold not as much value as time; is sure that the cavity thus far is solidly filled before placing in the last cylinder.

Drs. Forbes and Johnston's methods very nearly similar. Desultory questions followed.

Dr. Forbes thinks that sufficient gold is seldom used in the filling of cavities.

The President made a few remarks, stating that he doubted not good plugs could be made in many different ways. Mentioned filling made by him nine years ago—still good; would not be pleased with the work to-day, but the teeth have been preserved.

Dr. Moore was asked how he dried the plug when by mischance it became wet. New serrates the gold, &c.; always has two assistants. Stated that he did not fully understand Dr. Forbes' explanation.

Dr. Forbes took the floor, and in response to a remark made by the Chair that each one was peculiarly attached to his own method, stated that with him it was not so, as he adopted all that seemed to him improvements on his own method.

Dr. Webster was called on. Had no fixed method; "just went right on and filled them." Has fillings which have been in twenty years; uses his gold in strips introduced by the wedge process; uses cylinders occasionally; serrated instruments, small pointed; sometimes uses much force in large cavities.

Dr. Morrill asked some one to describe the manner of filling bicuspids.

Dr. Totten being called upon by the Chair, stated his manner of filling a cavity in the above mentioned teeth. Uses a silver wedge; forces it down between the teeth; introduces his gold from the grinding surfaces, filling from the bottom and condensing with mallet, making the wedge a wall of the tooth for the time being; uses the drill to sink pits. Thinks iron, if rightly shaped, would answer the purpose as well as the wedge above mentioned.

Dr. Morrill thinks when by accident the cavity becomes wet while under the process of filling that it should be washed out with ether and new pits drilled.

On motion, discussion was discontinued in regard to gold filling, and tin and other cheap fillings taken up.

Dr. Cast then gave his experience with Woods' metallic alloy. Had not used it very extensively.

Dr. Morrison had used it but little; it worked well; considers it nearly equal to tin; worked easily, &c.

Dr. Burgess told of a case where tin fillings had stood nineteen years in the under molars on the grinding surface the upper molars being present.

Dr. Martin stated a case of the second inferior molar on grinding surface being filled with tin, which stood twenty-one years and kept the teeth in a good state of preservation.

Dr. Robertson stated his experience. Had not used Woods' alloy to any great extent. Told of a case where tin filling had remained forty years in good condition on a grinding surface. Thinks tin the best of all cheap fillings.

Dr. Keightley endorsed tin fillings.

Dr. Burgess stated the case of Rev. Mr. Green, who had an upper tooth filled with old-fashioned silver amalgam, when the nerve was destroyed one day and filled the next.

Dr. Forbes stated that if the same pains were taken any tooth could be filled with tin that could be filled with gold, with the exception of building up. Thinks tin the best non-conductor that can be used; use in the same manner that gold was once used in ribbons; advised the non-usage of Woods' alloy; advised Lawrence's amalgam when necessary to use such an article; encloses the amalgum in a piece of buckskin and subjects it to a vice power, after which he subjects it to heat; advises the use of tin for the purpose of learning to manipulate gold; will never use amalgam in a bicuspid or any of the front teeth; in filling one of the latter named teeth he breaks out the intervening space between the cusps, whether sound or not; "if there is no hole he makes one."

On motion of Dr. Johnston the further discussion was discontinued, and miscellaneous business taken up.

Dr. Johnston read an invitation to attend the Third Annual Meeting of the Central States Dental Association, to be held at Louisville, Ky., commencing July 17th, 1866.

On motion, the invitation was received and cordially accepted.

On motion, delegates were elected to attend the American Dental Association, to be held at Boston; Mass., to commence on the last Tuesday in July.

The following were elected: Dr. Richardson, of Terre Haute; Dr. Morrill, of New Albany; Dr.s Hunt and Johnston, of Indianapolis; Dr. Knapp, of Fort Wayne; Dr. Webster, of Richmond; Dr. Moore, of Lafayette; Dr. Keightly, of Greencastle, and Dr. Jamison, of Shelbyville.

On motion, the Secretary was empowered to fill vacancies that might occur.

The thanks of the Association were tendered to Dr. Forbes for his attendance.

On motion, $8 00 were voted for the use of the room.

On motion, it was ordered that the next annual meeting be held at Indianapolis on the last Tuesday of June, 1867.

On motion, the meeting adjourned until 8 o'clock; P. M.

Second Day—Evening Session.

Meeting called to order by Vice-President Morrill.

On motion, reading of minutes was suspended.

On motion, the afternoon discussion was resumed.

Dr. Morrill made some remarks in regard to cheap filling. Finds in his experience with Woods' filling that oxide gathers under the filling after it has been in place some time; thinks it has been quite generally ignored.

Dr. Burgess stated that he never used it in but two cases; sometimes uses plastic alloy for the time being until the permanent teeth are ready.

Dr. Cummings used it for about six months, became disgusted with it and discontinued to use, only for temporary use.

Dr. Wells never used it to fill a tooth. Stated that a lady melted it in hot water in a case where it had been used to fasten on a plate tooth.

Dr. Morrison, of Greencastle, never used it for filling. Sometimes used it as a cement.

Dr. Tauton never uses it as a filling. In several cases where he has removed it found that the teeth have decayed under the filling. The decay seemed of a yellow cast; thinks it produces a soreness at the time of usage; generally uses amalgam; thinks tin the best; uses amalgam because it is easier manipulated.

Dr. Pifer had not used it to any great extent. Discovered the same discoloration mentioned by the foregoing speaker; thinks Woods' office licence; not on the square; prefers amalgam.

Dr. Moore. Never used it to any extent; don't like the idea of cheap fillings; a tooth worth saving is worth saving well; prefers amalgam; takes the same care with the latter as with gold; makes little difference in price between amalgam and gold; sometimes where the walls of the cavity are thin uses os artificial as a support. In his experience was not satisfied with Woods' alloy. In filling with gold thinks the dentist should educate his patients in regard to care of the teeth; if decayed teeth are owing to ill condition of blood patient should be treated for the same; thinks it for the pecuniary interest of dentists to do so; has several families under his treatment; don't think decayed teeth need to exist to any great extent if the people had proper instruction and treatment at the hands of the profession. Thinks the condition of the blood regulates the perfection of all dental operations.*

Selections.

A Description of Professor Vander Weyde's Apparatus, for the Generation and Administration of Nitrous-Oxide and other Anæsthetic Gases.—By Samuel W. Francis, M. D., Fellow of the New York Academy of Medicine.—Many practioners would administer laughing gas, were it not for the cumbrous and offensive india-rubber bag now in use. It is much easier to place a patient under the influence of an anæsthetic by means of a few drops of chloroform, or even with the temporary delay of ether, than to subject him to the annoyances incident to the present use of breathing-bags. But Professor Vander Weyde has recently patented an invention easy of use, durable in construction, speedy in generation, and effective in its results. By its rapid arrangements, nitrous-oxide can be made the instant it is required; retained in reservoir for an indefinite period, without degeneration or loss of volume; and what is more to the point of interest, the patient may inhale and exhale from the same mouth-piece, without inspiring any carbonic acid gas or weakening what may be made after he has commenced his respiration. A few words in detail will explain the working of this beautiful combination. During DR. VANDER WEYDE'S residence in this city, previous to his appointment to a Professorship in Girard College, he invited me to examine it and witness its efficacy. I saw at once its simple ingenuity, and felt satisfied that, as soon as known, it would bring credit to his brain and money to his bank.

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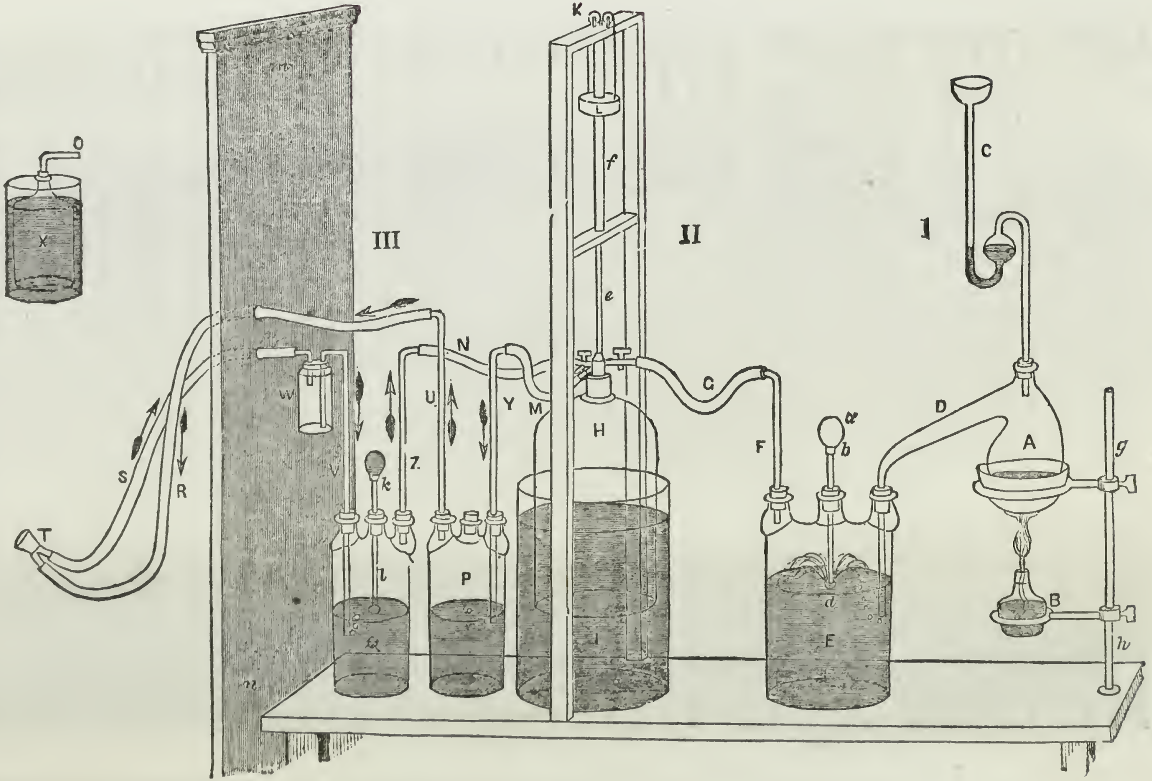
*The last page of the manuscript of this report, containing a few paragraphs, was lost. It contained no material point, however.—[Ed.

The annexed wood-cut may be readily comprehended by the following explanation: I. Of the gas generator and purifier. II. The gasometer or reservoir, (a substitute for the rubber bag or bladder.) III. The method for freeing the carbonic acid from what has been exhaled, and allowing the inspired gas to be always clean and washed.

The retort A, where nitrous-oxide is to be made, is filled with nitrate of ammonia, and heated in a sand-bath over the spirit-lamp B, supported by the stand *gh*. It is provided with a safety tube, C, filled in the bend with a little water, so that when the retort is cool, the water from the washing bottle E, cannot be sucked into the retort through the neck D, which is bent so as to descend perpendicularly. *abd* is a purifying glass tube with a rubber top, which by squeezing will force little jets of water, so as to wash any gas that, in its too rapid generation, might have escaped cleansing. The gas then passes through glass tube F and flexible tube G, into a large WOLFE'S bottle H. which floats in water contained in vessel I. But for nitrous-oxide a solution of a sulphate salt or dilute sulphuric acid is the best, according to Dr. VANDER WEYDE'S many experiments; for pure water is capable of absorbing its own volume of this gas, and if the vessel be not very strong, the atmospheric pressure would crush it. The gasometer H, is balanced by guiding-rod *e*, sliding in tube *f*, and counterpoised by weight L, upheld by ropes passing over pulleys K. The glass tubes Y Z are connected with the gasometer H, by means of flexible tubes M and N, and the gas easily flows through them into bottles P and Q. P contains water, but Q a solution of caustic potassa, soda, lime, or something of a similar nature. The laughing gas continues its progress through the glass tubes U and V, and the flexible tubes R and S convey it to the mouth-piece T. As may be seen by the diagram, the inhaled gas only passes through the water in bottle P, while that exhaled is forced through the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solution of potassa, which deprives it of the carbonic acid gas. Bottle Q may have a glass tube and rubber in *abd* in bottle E, to send out jets and more effectually wash the gas if desirable. The beautiful part of the mechanical portion of this invention is the purifying arrangement. The gas is allowed to pass but in one way, for tubes V and Y plunge under the liquids in bottles Q and P. Hence the gas only passes downward in them. In the upward action, the liquids rise 2, 4, or 6 inches, and thereby act as complete valves. Any other kind of valves in the lower end of tubes V and Y, would not produce as favorable a result. The direction of flow may be seen by the arrows.

As an additional safety in preveuting any liquid by any possibility being sucked into the mouth, owing to the great excitement, at times, of the patient, Prof. VANDER WEYDE places a small vessel W, between V and S, so that on a strong inspiration, it would pour into W, but on the next expiration it would be blown back into the bottle Q, and thereby all danger in that quarter is prevented. It is impossible, in detailing a description where letters are employed, and one has not seen the apparatus in motion, for it works very like a little steam engine, to suit unmechanical minds. For there is apt to exist an appearance of confusion or complication that does not in any way form a part of the true instrument. But if this plain method were once seen, it would convince the most skeptical, and especially those who have been accustomed to use the big bag or bladder, which soon becomes foul by exhaled carbonic acid gas.

The small jar X, on the left, may also be used as an artificial respirator, by attaching tube O to mouth-piece T, and moving it up and down.

For fear that unruly and over-excited patients might destroy this glass apparatus, Prof. VANDER WEYDE suggests passing the flexible tubes S R through a wall or partition *mn*, so that it may be in one room, and the gentleman breathing laughing gas in another—this dispenses with the last objection that can be made.

For hospitals it would prove most excellent, as the entire apparatus could be kept in a separate room; the gas made when necessary, and, if not used, held in reservoir for an indefinite period. As nitrous-oxide has been found by actual experience to be by far the least injurious of all anæsthetics, it would seem advisable for this subject to be thoroughly investigated, now that a suitable contrivance has been made.

The following remarks of Prof. Vander Weyde, are worthy of consideration, as coming from a philosophical chemist:

"It is a singular fact, that among the anæsthetics now in use—ether, chloroform, and nitrous-oxide — the first is combustible in itself, though the very *opposite* of a supporter of combustion and life; the second, chloroform, is neither combustible nor a supporter of combustion; while the last, nitrous-oxide, *is a powerful supporter of combustion and life.*" There is much worthy of the profoundest reflection in this sentence, if it be the aim of the practitioner not only to remove shattered limbs and alleviate suffering, but also to render as safe as possible the condition of his patient while undergoing an operation.

Prof. Vander Weyde intends to erect a factory for the purpose of preparing nitrous-oxide in liquid form, and supplying hospitals with small cylinders of it, condensed under a pressure of nearly 50 atmospheres. This will enable physicians to keep large quantities on hand in a small compass, as is the case with soda-water, especially as it is not explosive, for the liquid does not suddenly take the gaseous form.—*Med. & Sur. Rep.*

LOCAL ANÆSTHESIA.

Among the late novelties in surgical and medical appliances perhaps none has attracted more attention in these countries, during the past few months, than that of Dr. Richardson, of London, for producing local anæsthesia by means of the spray of ether thrown upon the part. A considerable number of trials of this method of producing insensibility to pain during minor surgical operations have been made in this city. Mr. Symes, one of the surgeons to Stevens' Hospital has tried Dr. Richardson's plan with almost universal success. It has also been tried in the Meath Hospital, and reported upon favorably by the surgeons of that institution. Mr. McClean, the surgeon-dentist of the City of Dublin Hospital, has made use of this means of producing anæsthesia during the removal of teeth, and with a very satisfactory result.—*Med. & Sur. Rep.*

ON ANÆSTHETICS.

Permit me, through the columns of the Reporter, to contribute a few remarks upon the subject now attracting some attention, of the comparative merits of nitrous-oxide and other anæsthetics.

Almost since the first general introduction of anæsthetics into surgical application, (fifteen or sixteen years,) I have been in almost daily experience with them, that experience embracing most of the substances employed to produce anæsthesia, either general or local.

On the recent re-introduction of nitrous-oxide for that purpose, I made careful experiments with it, both in its preparation and its application, my experience rising in the aggregate to some hundreds of successful cases, (teeth extraction,) yet I am not prepared to give it so sweeping a preference as does Dr- Carnochan over chloroform and ether. I am not of those who resent all innovation of established practice, but while we lean generously toward the *new*, let us at least not be unjust to the *old*.

I am aware that novelty has an almost irresistible charm even to the most matured judgements, and that the well-known and very laudable desire of our representative men for progress, may sometimes lead them into undue enthusiasm in prematurely signalizing an advance, is not altogether unnatural; but while we are proud of their enterprise, let us beg of them that they will not commit themselves too fully upon very limited data. It seems to me that the data in regard to nitrous-oxide as an anæsthetic, are far too limited to admit, in fairness, of any conclusive comparison of its merits with those of chloroform and ether.

Furthermore, I wish to remark that we are accustomed to speak of the danger to life connected with the inhalation of ether and chloroform as being inherent in these agents, and I wish to inquire of your readers if, in the general private opinion of the profession, this is really the case.

There have been deaths occuring under their administration —no one doubts that; but, *entre nous*, have none occurred from the bungling or unskilful use of the surgeon's knife?

Who is prepared to say that a larger proportion can be justly placed to the charge of the one than to that of the other?

Yet I apprehend that no one would aver that the danger to life was or is inherent in the knife, instead of the hand that guides it, and that its use should be abolished in consequence; at least, until the proof should be clearly established that we have more than its equivalent with which to replace it.

We should rather seek increased skilfulness in its employment, and in my humble opinion, we are bound to render to ether and chloroform the same justice, instead of making them the scape-goats of our own shortcomings. I, for one, am not satisfied that the best skill we are capable of attaining is generally employed to guard against the dangers that might be intelligently foreseen in the administration of these agents, powerful for good or for evil—ether and chloroform.

My own experience leads me to be most guarded against the approach of danger in the three following directions, viz.

1st. *Asphyxia*—from privation of atmospheric air.

2d. *Hyper-Anæsthesia.*

3d. *Nervous shock*—from too forced and sudden administration of anæsthetic influence; or from mental terror, inspired by visible preparations, excitement of sympathizing friends, and forcing the patient to submit without first quieting those fears.

These, I am convinced, are the real sources of danger in the employment of chloroform and ether, and they seem to my mind, if not *absolutely*, at least to a very great extent *avoidable.*

If I were asked how, I would reply that in the avoidance of the first named of these dangers, which is by no means imaginary, the precaution is very simple and obvious, consisting of the admittance of sufficient atmospheric air to support respiration.

In this connection, I must conscientiously apply the strongest terms of condemnation to the custom, so largely in vogue, of smothering down the subject, as some term it, for here we incur the two principal dangers combined in one. I know of nothing more calculated than such a struggle for respiration, to throw the subject into a panic of mental terror, such as a delicate organization would not be able to survive.

Against the danger arising from too sudden and from over-etherization, the precautions are, in my view, nearly identical, and first of all, should be to secure the confidence of the patient.

In my own hands, in proportion to the calmness and confidence with which the patient has approached the operation, has been *cœteris paribus*, the absence or otherwise of unfavorable symptoms.

If it is approached with terror, the patient yields tardily, is not easily subdued, the symptoms of hyper-anæsthesia will often immediately follow, requiring the closest attention to prevent the strong tendency to paralysis of the vital functions.

I employ by preference chloroform, formerly DUNCAN & FLOCKHAST'S; at the present time, I find fully its equivalent in that prepared by EDWARD R. SQUIBB, of Brooklyn, L. I.

Having taken the usual precautions in regard to the conditions of the stomach and dress, so as to have no obstructions of the vital machinery, with my finger upon the pulse, and with calm words of assurance, and closely watching the vital movements, I place the anæsthetic just near enough to perceive its effect upon the system, graduating this so as to introduce it very slowly and evenly until the voluntary muscles are relaxed, and the subject in a quiet and perfect anæsthesia.

In this manner, I have no excitement, no struggle, no spasm, no asphyxia, no hyper-anæsthesia, and very little nervous derangement, either present or following.

I in fact find less nervous disturbance with chloroform than with ether, and under the precautions I have indicated, I know of no reason to think it less *safe;* if any one does know of such reason, I would gladly be informed of it. I could cite many cases to prove the important rôle which *fear* and *confidence* enact in this connection, but I presume it to be patent to every intelligent observer, and I desire that my letter shall be acceptably brief.

ERASTUS WILSON, M. D.
Of 44 Bond street, New York.

Havana, Cuba, April 19th, 1866.

Remarkable results have been obtained by M. SCHLŒSING in the production of exceedingly high temperature by the combustion of gas with air. By regulating the quantity of hydrogen and air brought together at the time of combustion, a considerable range of temperature can be obtained, the highest named in a communication recently made to the Academie des Sciences of Paris, by ST. CLAIRE DEVILLE, being 2736 deg. Cent.

REMOVAL OF UPPER MAXILLARY BONE FOR MYELOID DISEASE. PALLIATIVE OPERATION TWO YEARS BEFORE.

[Read before the Boston Society for Medical Improvement, and communicated for the Boston Medical and Surgical Journal.]

BY J. MASON WARREN, M. D.

W. A. B., a young man, 19 years of age, entered the Hospital April 7th, 1864. He was formerly a soldier. One year and a half before, a small swelling was noticed upon the outside of the gum of the upper jaw, near the first molar tooth, following an attack of typhoid fever and a severe cold in his head and face from exposure after a too early discharge from the hospital. Thinking a carious tooth in that vicinity might be the cause of the swelling, he had it removed; but the appearance of the tumor was unchanged. Twice an incision was made in it, giving exit to a quantity of blood each time. Nine months or a year after, it began to increase in size more rapidly. Upon admission to the hospital the tumor measured one and a half inches in diameter; was ovoid, hard, not tender upon pressure, painful at times, pain "streaming up" the side of the face, and at such times the eye was frequently bloodshot.

Operation—April 9th, the patient was etherized; the lip was drawn up, exposing the tumor. An incision was then made in the protruding wall of the tumor. Through this opening the finger was passed into a cavity containing a pulpy substance, which partly filled the antrum, and which was scooped out by the fingers. There was free hemorrhage from the opening into which a piece of sponge was inserted.

A fragment of the tumor was examined by Dr. Ellis under the microscope, and found to contain the many uncleated plates of myeloid growth, and distinct isolated nucleated cells, such as are usually found in the same connection.

Sixteen days after the operation, the patient was discharged, relieved.

On Wednesday, Nov. 29th, 1865, he returned again to the hospital for the removal of the upper maxillary, the disease having recurred and made considerable progress. Since the previous operation he had served as a soldier in the volunteer army. The right side of the cheek was now occupied by a hard tumor, projecting the whole anterior wall of the antrum, and slightly impinging on the malar bone. The aperture mentioned in the previous account of the case was filled with a dark-colored, fungoid-looking mass, about the size of a chestnut. A consultation decided that the whole bone should be removed at once, as promising the only certain means of cure. The patient consenting, it was done in the following manner, which I shall describe in detail, as being the method which I have ordinarily persued for the removal of the upper maxillary bone, and which leaves as little deformity as any of the methods proposed, where the disease to be removed is extensive. The patient being etherized sufficiently to carry him through the preliminary incisions, a sharp-pointed bistoury was plunged through the skin just above the zygomatic process of the malar bone. A curved incision was then made through the skin and muscles to the angle of the mouth. A bit of sponge had been previously stuffed into that cheek to prevent the blood from flowing into the fauces. When the skin of the face is more flaccid, as in old persons, this incision may be commenced lower down, thereby dividing fewer filiaments of the facial nerve, leaving less paralysis. A too limited incision, however, embarrasses the section of the bones. The flap was now dissected rapidly up, the right ala of the nose cut away, and the contents of the socket dissected partially from the floor of the orbit. The bones now being well cleared, the vessels in the flaps were tied, the blood cleared away from the wound and a fresh application of ether made. With a small handsaw a groove was made in the ascending process of the malar bone and through the zygomatic process, and the section completed by the cutting forceps, the former incision extending into the sphenomaxillary fissure. The nasal process of the superior maxillary bone was now cut through in the direction of the same fissure. The mouth being held wide open, a vertical incision was made, with a strong sharp-pointed knife, through the coverings of the hard palate as far back as the palate bone, and a lateral one from the termination of this behind to the root of the last molar tooth. Liston's large cutting forceps were now used to divide the bone, which they cleanly and efficiently did, the first incisor tooth having been previously removed. The whole mass was now seized with powerful hooked forceps and an attempt made to depress it, but it held fast at its junction with the pterygoid process of the sphenoid. A chisel was therefore driven in behind the bone and an attempt made to break its attachments, but without success. A blunt chisel was then inserted between the two maxillary bones, and by a prying motion the adhesion to the bone was broken off. The remaining soft attachments were divided by curved blunt scissors. The maxillary artery spouting out freely, was restrained for a moment by means of a sponge until the fauces were freed from blood and respiration established. The vessel was then easily secured. After waiting until all hemorrhage had ceased, the edges of the skin were accurately brought together by numerous satures, great care being taken to nicely adjust the lip; and one or two satures were taken in the mucous membrane.

The patient, although a powerful young man, seemed greatly depressed from the shock of the operation, and stimulants were freely administered. There was some oozing from the wound during the day. For a number of days the pulse remained feeble and the strength much depressed. At the end of two weeks the powers of life revived, and he then began to recover with great rapidity. The paralysis of the face, which is sometimes very marked, was less than usual, and with a slight effort the eyelids could be nearly closed. Sight was not impaired. The union of the wound was perfect, except at one small spot where a salivary fistula seemed to threaten.

On inspection of the diseased part, the cavity of the antrum was found filled with a soft, dark-colored, spongy mass, which, under the microscope, presented the well-marked characters of myeloid disease. The disease was entirely removed by the operation.

Remarks.—The incisions made in the soft parts in this case leave as little deformity as any of those suggested for the excision of this bone. Gensoul recommends incision of the upper lip, a cross cut through the cheek and a perpendicular one at the end of this, leaving three very disagreeable scars. Fergusson, a simple cut through the upper lip into the nostril, or possibly a continuation of this incision around the margin of the ala and up the side of the nose; bpt these would hardly give room in a case like the present. In regard to the bones, it has been recommended to make one cut through the maxillary process of the malar bone into the spheno-maxillary fissure, instead of dividing the zygoma and the frontal process of the malar bone. The objection is that the development of the tumor generally occupies the whole cheek and prevents, in most cases, the execution of the plan proposed. The trying point of the operation is the adhesion of the maxillary bone to the pterygoid, made more firm by inflammatory action, so that in malignant diseases, in attempting depression of the bone, the front part of the antrum is apt to break away from the posterior portion, requiring the back part to be subsequently removed with the chisel or forceps.

The little deformity left from so very great an operation is remarkable. There is a slight paralysis in the cheek, and at first a confusion in the speech and some difficulty in deglutition, which can almost completely be remedied by artificial appliances of gold, gutta percha, or hard India rubber.

With a little management, a much larger portion of the soft parts covering the palate might be saved, as they peel off easily when the bone is depressed.

This patient recovered perfectly. The salivary fistula, which it was feared would be permanent, closed after two or three free applications of caustic. The voice and deglutition were, of course, very much impaired by the great cavity left after the removal of the bone. These, however, were completely restored by the ingenious construction of a hard rubber obturator and palate, made by Dr. Rufus E. Dickson, dentist. He now speaks well; liquids no longer regurgitate through the nostrils, and on the first of March he left for his home in New York. He was previously present and examined by the members at one of the meetings of the Boston Society for Medical Improvement, and the pathological specimen exhibited at the same time.

* * *

USE AND ABUSE OF POULTICES.—The *British Medical Journal* quotes some excellent remarks of Dr. Richardson from his lectures delivered at the College of Physicians on the use and abuse of poultices.

The application of moist heat in the form of poultice to suppurating parts, requires, he thinks, remodeling, in order that it may be placed on a true scientific basis. The common recommendation, "you must put on a poultice," is too often an easy way of doing something, about which we were not quite sure, and concerning which it were too much trouble to think long. Mischief is very often done by a poultice, which might well be avoided.

When a part is disposed to suppurate, the first step in the series of changes is an increased flow of blood through the capillary surface, followed by obstruction, and thereupon by an excess of sensible heat derived from the friction that is set up. Then follows transudation of liquor sanguinis into the connective tissue, and its transformation, under the influence of heat, into what is called purulent fluid. When to the part in this state we apply moist heat, we quicken suppuration, mainly by upholding the temperature: at the same time we secure the transference of water from the moist surface into the fluids of the inflamed part, by which tension of tissue is produced, and in the end yielding of tissue at the weakest point.

When the suppurating surface is circumscribed, the rapid induction of the process may be attended with little injury; but when the surface is large, and when the exuded fluid is thrown into loose structures where it can burrow readily, the practice cannot be good to the extent of the mischief. Hence in the treatment of carbuncle and plegmonous erysipelas, it cannot be sound practice in the early stage to apply moist heat. Experience as well as principle warrants this conclusion. In cases of carbuncle especially, Dr. Richardson has of late avoided the application of moist heat in the early stages with good results.

But when in the course of local disease, suppuration is actively established and is naturally circumscribed; when the increased temperature of the part has fallen to or below the natural temperature—then the value of moist heat comes on with full force. Then the tension which is exerted determines the escape of fluid at the weakest point of the surrounding tissue, and when the fluid escapes, or is liberated by the knife, the escape for a long period is aided by application of moist heat.

The continued application of moist heat for a long time after the escape of purulent fluid is again indifferent practice. It sustains discharge, it sets up unhealthy decomposition of fluids; it produces a thickened, soddened condition of skin, most favorable to the production of sinus; and it retards recovery. When a surface is freely open, and suppurating, dry and not moist heat is the remedy. We are in want in these cases of a simple invention; we require something which we can apply as readily as a poultice, which shall keep up the temperature of the part, and at the same time take up moisture, and gently desiccate, without injuring the tissues.

REMOVAL OF THE ENTIRE TONGUE SUCCESSFULLY DURING LIFE.

Mr. Nunnely exhibited to the Pathological Society a specimen of the entire tongue, which had been removed nineteen days before, from a man aged thirty-five years, by a submental opening.

He never had a bad system, and is now quite well.

The disease, which had existed sixteen or eighteen months, became worse two months before the operation, and from the pain and difficulty of speaking, the impossibility of mastication, and difficulty of deglutition, was fast wearing the patient out. He has already recovered strength and flesh; indeed, he says that he is as well as he ever was. He talks with great distinctness and swallows with facility.—*Med. Times and Gazette.—American Journal, July*, 1865.

* * *

EFFECTS OF TOBACCO ON THE MENTAL POWERS.—M. Bertillon, in the *Union Medicale*, supplies some interesting facts in relation to the effects of tobacco on the mental powers, derived from an investigation made at the Polytechnic School in 1855-56. He investigated in 160 of the pupils who had undergone their examination, what influence the fact of their being smokers had upon the result. As large a proportion as 102 of these pupils were smokers. It was found that in the classification by merit which followed the examinations, that, while in the highest series a third or fourth of the pupils were smokers, in the lower three-fourths, and in the lowest series four-fifths were smokers. Again, while among 66 confirmed smokers their mean rank of 94.6 on their entrance into the school had sunk to 98.3, in the case of the 60 pupils who were not smokers their rank of 71 on entrance (already 23 ahead of the smokers) rose to 67.5—being, as the result nine months' work in common, 30 in advance of the smokers. This result of the inquiry as regards these limited numbers was conformable to the prior experience of the school—*Medical and Surgical Reporter.*

* * *

ETHER.—A wealthy gentleman of Boston has placed a sum of money in the hands of an architect, for erecting a monument in that city to commemorate the discovery of the anæsthetic properties of Ether.

Editorial.

ORGANIZATION OF THE OHIO STATE DENTAL ASSOCIATION.

Persuant to a call signed by a number of the profession, and issued about the 1st of June, quite a large number of the profession assembled in Columbus on Tuesday the 26th of June, for the purpose of organizing a State Dental Society. The assemblage was for the most part composed of the earnest workers of the profession. They seemed to be thoroughly impressed that a great responsibility rested upon them. They were about to attempt a work which if harmoniously and well done, would result in great good, would exercise a wide and lasting influence.

In the temporary organization, Dr. B. Strickland of Cleveland, was chosen chairman, Dr. H. A. Smith of Cincinnati, Secretary, and Dr. B. T. Spelman, Treasurer. A committee was appointed to prepare and present a constitution and by-laws. That committee reported a draft that with a very few slight modifications, was entirely satisfactory to the meeting. This constitution and by-laws were adopted, and then upon motion it agreed that only those who were active members of some local society in the state, or graduates of a dental college, were elegible to membership in the organization. All thus qualified, proceeded to sign the constitution and pay the initiation fee. The officers for the permanent organization were then elected and installed; a committee on membership was appointed who then proceeded to receive and examine applicants for membership, who were not eligible in the organization, quite a large list of names were presented by the committee, all of whom so far as we know were elected members. We think, there was a strong disposition apparent, though not ostentatiously so, to make merit and ability the basis of membership. This we hope may serve as a wholesome stimulus upon some.

There were several topics of general interest taken up and discussed ; among which was the proposed bill to regulate the practice of Dentistry in the State of Ohio. Upon this subject, after a free examination and discussion, there was but one opinion, that it was entirely feasible and greatly to be desired, both upon the part of the people and the profession; and there was a unanimous resolution to labor earnestly for its procurement by all proper effort. The fact was pretty clearly brought out that the character of the opposition hitherto made against it was of a very questionable character, especially in the method of its procedure.

Other subjects were discussed and elicited much interest. The interest and earnestness that was manifested will be appreciated when we consider that there was three long sessions held each day, and at the final adjournment it was agreed to hold the next meeting, which will be in January next, during three days.

One work was performed that has not been attempted by any other dental society in existence so far as we know, and that was the drafting and adopting a code of Dental Ethics. It has often occurred to us as a matter of wonder, that dental societies have not framed and adopted such an instrument; for by it certainly a great many things that have been harrasing and vexing, in associations, would have been set at rest; we think all societies would find such an instrument highly beneficial. It will be published with the proceedings of the society, and we ask for it a careful perusal and consideration. The society has upon its roll the names of forty members; thus entitling it to eight delegates, in the American Dental Association, which were appointed. There will be two meetings annually; the annual meeting in January, and the semi-annual in June.

The officers are, President Dr. Geo. Watt; 1st Vice-President Dr. Geo. W. Keely; 2nd Vice-President B. F. Robinson; Recording Secretary H. A. Smith; Corresponding Secretary A. W. Maxwell, Treasurer M. DeCamp.

If the Association continues with the energy that characterizes it in the beginning it will certainly be productive of much good to the profession in the State. Long may it prosper.

A PRIZE.

At the meeting of the Mississippi Valley Dental Association held in Feb. last, a prize of one hundred dollars was offered, through the Association, by Drs. Morgan, of Nashville, Mc-

Clelland, of Louisville and Cameron, of Cincinnati, for the best essay upon "The Health of the Dentist, the peculiar diseases to which he is liable, and the best means of avoiding them."

A prize of fifty dollars is also offered by Dr. Morgan, through the Central States Dental Association, for the best essay upon the same subject.

The essays presented for these premiums are to be submitted to committees appointed for the purpose, and are to be disposed of according to the regulations made by the Mississippi Valley Dental Association at it meeting in 1865.

We hope these prizes may be the means of calling out something valuable to the profession. It is a subject interesting to every member of the profession. We would request medical journals, so far as practicable, to give this notice an insertion.

* * *

HO! EVERY ONE TO THE BREECHES!!

A little boy was chased by a cross dog. "Wern't you frightened' Charlie?" asked a friend.

"Well, no, Uncle; I wasn't scared, but I never wanted up a tree so badly in all my life," said Charlie.

Well, what of it? Why—

The "G. T. B." editor of the *Dental Times* isn't exactly frightened; but since the day that his mother spanked him he has not had such misgivings in reference to the encroachments of woman upon the rights of man. And the primary cause of this turmoil is a little girl out west who has gone and made a dentist of herself; and the finishing stroke is that she has been admitted to membership in a first class State Society; and, as if adding insult to injury, she has graduated in the Ohio College of Dental Surgery, and is, therefore, Lucy B. Hobbs, Doctor of Dental Surgery, which is something not provided for by the customs of society nor even laid down in the books.

But what is "G. T. B." going to do about it? That is the funniest of all. He tells us "I propose to offer an amendment to the constitution of the American Dental Association, at its next meeting in Boston, to allow none but males to be eligible as delegates from the local societies."

G(o) T(o), B(rother)! Let me expound unto you "a more excellent way." If Doctor Lucy should be at Boston as a delegate, before you offer your amendment, get her to fill a tooth for you, (if you have no decayed ones let her drill a hole in a sound one) and your objections to lady dentists will vanish into thin air. The doctor will do it well. The Ohio College will go her security; and it will appear so perfectly natural and proper to the patient that his amendment will never be thought of again. When there is but one lady graduate in the whole dental profession of the world, it looks like taking time by the fore-lock to shut her out.

The editor argues at length that woman is not fitted by nature for the practice of dentistry. I do not propose to notice his arguments; they are average specimens of special pleading. Their main point seems to be that, as the practice occupies both mind and body it is too hard for women. The fallacy of this will appear to any one who thinks of what is ordinarily required of and accomplished by women. Filling a tooth requires less effort of mind and body than getting up a dinner; and the whole of dental practice is mere play, both of mind and body, when compared with house-keeping.

Dentists are too liable to act the fool by attempting to magnify their calling. They talk eloquently about its cares and perplexities, when, as compared with medicine or theology, it has none. They prate about its difficulties as an excuse for not overcoming them, and they groan their Jeremiads over its toils and fatigues, to prove that women and weaklings should be kindly kept from its pale. The truth is, dentistry is a nice, clean, cosy, comfortable, easy profession, as compared with others. Its labor is easy, its studies are pleasant pastime, its offices are airy parlors; its hours are regular; its patrons are intelligent, good company; its members are jolly, pleasant companions; its remunerations are reasonable, its responsibilities are light, its trials are few, its vexations are not worth mentioning; its temptations are slight, its position is honorable and honored, and its progress toward perfection is rapid. It is a profession fit for strong men or weak men, for old men or young men, for women and for girls; fit, always fit for the competent and the honest, but never fit for the unprincipled and the incompetent. And the man who whines about its cares and its burdens, its toils and its trials, is unworthy of it and a discredit to it. W.

DEATH OF DR. SLACK.

DIED—On the 23th of May last, Rev. ELIJAH SLACK, M. D., L.L. D., after an illness of several months' duration. We should have noticed this earlier, but it was overlooked.

Dr. Slack was a native of Bucks County, Pennsylvania; was born November 6th, 1784, and was, therefore, in his 82d year when he died. He graduated at Princeton in 1810, and, for a time, conducted an Academy at Trenton. He was afterward appointed Professor of Natural Science and Vice-President of Princeton College. In 1817 he came to Cincinnati, and was a member of the Faculty of Cincinnati College during the existance of that institution. In 1819 the Medical College of Ohio was organized; and he became Professor of Chemistry, holding the position for fourteen years, associated with Eberle, Drake, etc. In 1846 he was appointed Lecturer on Chemistry in the Ohio College of Dental Surgery, and it is supposed delivered the first systematic course of lectures on chemistry as applied to dentistry ever listened to.

Dr. Slack was an ordained minister when he came west, and remained a member of the Presbytery of Cincinnati while he lived. Age and bodily infirmity have kept him from active duties for several years; and he died as a machine runs down, leaving an aged widow and several children to rejoice that he has gone before. For, having fought the good fight, finished his course, and kept the faith, why should not the veteran soldier enjoy his triumph in that peace which passeth all understanding? W.

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Original Communications.

CHLOROFORM AND ITS ADMINISTRATION.

BY DR. COCHRAN, OF BURLINGTON, IOWA.

Read before the Iowa State Dental Society, July, 1866.

THIS substance was discovered by Mr. Samuel Guthrie, of Sackett's Harbor, New York, in 1831, and about the same time by Soubeiran, in France, and Liebig, in Germany.

Guthrie obtained it by distilling a gallon from a mixture of three pounds of chloride of lime and two gallons of alcohol, and rectifying the product by redistillation, first from a great excess of chloride of lime, and afterwards from carbonate of potassa. It is thus evident that Guthrie obtained in a pure state the substance now called chloroform; but he erroneously supposed his product to be the well known oily liquid of the Dutch chemist, which it greatly resembles. Mr. Guthrie called the substance, in his communications, chloric ether, one of the names by which the Dutch liquid, or chloride of alifiant gas, is designated. He was induced to make the preparation from noticing a passage in Professor Silliman's Elements of Chemistry, which referred to the Dutch liquid as a grateful diffusible stimulant, when properly diluted with alcohol and water. In relation to the anticipated importance of this substance as a medicine (not as an anæsthetic agent, at that early day, for its legitimate use was not then at all understood), Mr. Daniel B. Smith, President of the Philadelphia College of Pharmacy, holds the following language, in July, 1832:

"The action of this ether on the living system is interesting, and may hereafter render it an object of importance in commerce. Its flavor is delicious, and its intoxicating qualities equal to or surpassing those of alcohol. It is a strong diffusible stimulant, similar to the hydrated ether, but more grateful to the taste."

ITS ADMINISTRATION.

It should never be given but by a person accustomed to its use, and well acquainted with its effects upon the living system. The following is the way, I think, chloroform may be most conveniently and safely administered:

Take a small linen handkerchief and pack it into a rounded ball, with convex and concave surfaces. Hold the convex in the palm of the hand, and pour about ʒi. of chloroform in the center of the concave part of the ball, which will be absorbed by the handkerchief immediately, and given off by evaporation slowly or more rapidly, just as you close or open the hand. The patient should be admonished not to eat anything of a gross character previous to the use of chloroform, say six or eight hours, nor but very little of anything for three or four hours before its use. Place the patient on the chair in a recumbent position, or as near so as possible; hold your hand containing the handkerchief saturated with the chloroform about one inch from the patient's nose and mouth, being careful to let there be a free admixture of atmospheric air. At first it will seem to be oppressive, but the patient will soon become accustomed to its use, and make her or his inspirations free and easy.

The principal points to be attended to during inhalation of this potent agent are, that it should not be given too suddenly or in too concentrated a form, and while under its influence the patient be not raised up in the chair. Care should be taken not to compress the abdomen in holding the patient, for as respiration becomes chiefly or wholly diaphragmatic, it may be seriously interrupted by any pressure on the abdominal walls. Whilst under its influence the patient should never be raised up, as has just been stated, for as this agent exercises a powerful sedative action on the heart, sudden and perhaps fatal syncope may ensue by putting the patient in the erect position.

With due caution it may be given with perfect safety to individuals of all ages. In administering it to young children, Dr. Snow recommends that it should be diluted with rectified spirits. The first influence of chloroform appears to be exercised upon the nervous system. The patient becomes excited and talkative, and a state of unconsciousness is induced, the muscular system at the same time being rendered rigid and tense. At this time the heart's action is usually quickened, and more forcible than natural.

As the administration of chloroform continues, however, complete paralysis of sense and motion is induced. The patient becomes altogether unconscious to all external impressions, the muscles becoming relaxed and the action of the heart slow and feeble.

It should be borne in mind that it is not necessary in all operations to administer chloroform; but that there are cases that justify its use must be patent to every one. Some good dentist doubtless will oppose the use of chloroform because *accidents* have occurred from its reckless and indiscriminate use, others from a sense of *fear* and prejudice in favor of some other anæsthetic agent. Why should there be such a hue and cry raised against this invaluable agent? Show me a drug in the Materia Medica that possesses potent and reliable properties, and I will show you a drug that has killed more patients than ever was dreamed of having *died* from the use of chloroform. Yes, gentlemen, there is no valuable medicine known in the catalogue of drugs, if improperly applied, but what will have a deleterious and baneful effect. Take, for instance, all the preparations of opium, quinine, digitalis, veratrum viride, strychnia, lobelia, antimony, calomel, and hundreds of other articles in daily use. They, it is true, have ameliorated the condition of thousands, yet at the same time they have slain their hundreds. Yet none think of discarding them, or ruling them out of use when indication calls for their administration.

ADDRESS,

BY I. J. WETHERBEE, D. D. S.

Read before the Massachusetts Dental Society, at its Second Annaal Meeting, May 24, 1866.

Mr. President, and Gentlemen of the Massachusetts Dental Society:

In entering upon the third year of our existence, it seems to me highly important that we retrospect the past; that we may gather instruction from events which have transpired, and which necessarily form a part of the history of our young and prosperous Society.

An all-wise Providence has dealt tenderly with us, for it is not said of any member of this numerous circle of professionally devoted men, "The silver cord is loosed, or the golden bowl broken, or the pitcher broken at the fountain, or the wheel broken at the cistern."

All we are, and ever hope to be, is due to the inspiring truths of revelation and science. There is no record of higher authority than the sacred volume, wherein is recorded, "Whatsoever a man soweth that shall he also reap," and which also declares, "The hand of the diligent maketh rich." Whatever degree of knowledge and proficiency we may have attained is due to an appreciation of these truths, and a personal, patient application of the talents which God has given us for good and practical purposes.

Utopian *theorizers* may stir up dust, to the disadvantage of their fellows, and becloud the minds of the less observing for the time being: but truth is mighty and must prevail; for "It seeketh the light;" indeed, it bringeth to light things that were hidden. *To know the truth*, and to walk in the *light* thereof, and to be "living epistles known and read of all men," I consider to be no less our duty, as members of an active society, than it is for the moralist to present a blameless record of himself to his fellow men.

Dental Surgery, our chosen specialty, embraces vast truths which are accessible only as we remove superficial incrustations which environ them, and by careful analysis separate the *true* from the *false*, so fully as to be able to recognize their adaptation and application to the highest claims of man.

During the year, the meetings of the Society have been well attended, which is commendable for the past, and augurs well for the future; very general harmony has characterized our deliberations; a variety of topics have been discussed, intimately related to our specialty, which have produced in some minds a thorough conviction that *too little* has been known of the best modes of practice in years gone by, and aroused a commendable zeal to perfect themselves in all that appertains to a skillful practitioner of dental surgery.

We have also learned that in every man there are valuable and useful experiences, which only need the light of social intercourse to command our respect, and sometimes our admiration. *Professional reticence*, which involves exclusiveness, has had its day of doubtful glory, and must be classified with the greed of the miser who hoards his gold for his own pleasure; whose heart is encased as with steel, and answereth not the calls of the needy, however great their extremity. To be permeated with this truth, "It is more blessed to give than to receive," is to become resolved to that *status* which makes a man useful with reference not so much to "dollars and cents" as to the good he may do.

The confession of several members of this Society that they have been materially or practically benefitted by clinics and various discussions, is the best argument I can offer in favor of the practical utility of organized effort, and the elucidation of the statement previously made. This benefit does not accrue solely to the advantage of the practitioner of dental surgery, but may be felt and duly appreciated by his patients, in the greater thoroughness and comfort obtained from operations performed.

The ordeal of *dental operations* to very many patients is a very trying one; sometimes so much so that they prefer to lose valuable members of the *dental circle*, rather than submit to the infliction of pain, unavoidable in obtaining favorable results. The acquisition of knowledge which shall leave this *incarnate demon* shorn of his power to augment the miseries of a professional hour is an attainment realized by comparatively few, and by them only as they have labored to become masters of the varied conditions and phases which are continually presenting themselves for their consideration.

It is not to be expected, however desirable it might be, that we shall see eye to eye in all matters pertaining to the practice of dental surgery. Previous education, or the want of it, have established opinions in the minds of many, which have grown with their years of practice, until a confirmed habit of thought limits the proper exercise of judgment, and naturally forestalls advancement into fields of rich discoveries, in the gleaning of which great possessions of power would be obtained.

Whatever may be the diversity of opinion with reference to this or that theory, one kind of practice or another, we should, by a suggestive style of debate, show at least that there is "unity in diversity," which is beautifully illustrated in the harmony of nature. Schismatic amplifications afford no proper nourishment to a body corporate, but the reverse; extending their miasmatic contagion to other unaffected parts. By proper care the *doubtful* may be eliminated from the *positive*, without hurt to the body where such antagonisms have unfortunately existed.

From various stand-points men have constructed their theories, and have practiced them with greater or lesser success, according to their correctness. Idiomatic precision of statement does not necessarily make a proficient in the highest order of dental practice. Theories elaborated into a profuse generalization lose much of their force for want of centralization. Ambiguity of statement carries us away from the heart of the subject in question, shutting out the light and beauty which always appear when truth is sought for with an humble, patient mind.

Classifications and distinctions are worthless unless clothed with true merit. No ephemeral display will suffice to carry forward the work to be done. It can only succeed in the hands of earnest workers, who shall persistently, by precept and example, set forth and impress the minds of others with those inspiring truths which awaken to life and activity the slumbering abilities that lie scattered around the golden fields of promise. Facts are weighty when aggregated from those varied experiences which are peculiar to the personal history of every individual worker in this department of science.

The history of the dental profession (which is the oldest of specialties), in its rise and progress, is not unlike other professions, for it has had its day of small things, in character, ability, and success. We have but to refer to the historic repute of surgery in Europe, when it first took up the scalpel, to recognize a striking similarity. Being universally subject to the dictation of the medical profession, it was without character. And whatever of ability might be displayed, or success obtained, he was " only a surgeon."

But how changed! For many years the professional surgeon has held a rank second to none among all the liberal professions, either in Europe or America. But how has this change transpired? Certainly not because human life is more valuable now than formerly, or because an advancement in intelligence enables us to award a larger meed of praise to him who dexterously wields the scalpel. Surgery has been made a specialty; herein is the problem of its success solved. And this demonstrates how fully a branch of science may become invested with power, when talent is appropriated or applied to a specific end.

Knowledge is power, however gained, but there are certain channels through which knowledge may be systematically obtained. I would therefore urge upon the consideration of every young man who contemplates entering upon the study of dentistry the practicability of first graduating at some Medical College, and of attending a full course of instruction at some one of the Dental Colleges; that he may be thoroughly furnished unto every good work which appertains to his specialty. If he cannot graduate at more than one for want of means to pay his way, let the Dental College have by far the greater preference.

I cannot too strongly urge the necessity of the latter course; for the time has come when every student of dentistry should feel the importance of establishing a public confidence in his ability to meet, in a scientific manner, the exigencies of every case which may come under his professional notice. It is due both to himself and patients that all proper assurances and guaranties be at hand, that the line of demarcation may be so obvious, that *empirics* and *charlatans* will find their occupation gone.

Dental Colleges, of which there are five, have played an important part in redeeming the profession from the condition of a mere handicraft, and have given to the world many intelligent men, whose ability and scientific attainments claim for them honorable mention and high regard.

The formation of Dental Societies is another means of promoting the welfare of the profession. Every practical dentist should seek for associate membership, and rest not until he obtains it. He may have to work hard and apply himself to diligent study before the goal is reached; but all s will accrue to his personal benefit.

It is true that in some localities *Mutual Admiration Societies* have kept men aloof from dental organizations, as though they feared contamination from professional contact. It is useless, however, to oppose the progressive tendencies of the times. We therefore say to *old fogies*, or to the *pseudo conservative* men, to beware of their opposition to concentrated effort, lest YOUNG AMERICA should overwhelm them by discovering to them the darkness of their own conceit.

The time has passed when with any show of justice it could be reasonably said of the qualified dental practitioner, "He is only a dentist." We have become a positive necessity to every household; moreover, our profession has so far advanced, through careful study and patient labor, that the results are sure of subserving the positive wants of our patients; and to be without a dentist is the exception and not the rule.

No intelligent man or woman will hold a thoroughly qualified dental surgeon second to the medical practitioner, only so far as dentistry is a specialty, and therefore bears a limited relation to the whole of medical practice. From what depths of woe and languishing estate are patients brought to enjoy freedom from pain, and "how removed are they from the appearance of premature old age." How many have been recovered of numerous ills which have baffled the skill of the medical practitioner, by setting their "dental apparatus" in order, when, as by magic, "health came again."

To practical dentists the world is indebted for the most valuable treatises or works on the human teeth and their diseases. Almost every graduate from a Medical College can say with truthfulness, "I was only instructed in the *order of development of both first and second dentition.*" In fact, the text-books used in Medical Colleges and Schools only treat of the teeth with reference to their number and the order of their eruption.

The rapid advance of dentistry as a specialty, holding, as it does, such intimate relation to medical practice, claims honorable acknowledgment by the liberal professions of to-day. If they are slow in granting a formal recognition, they are swift to avail themselves of the most distinguished services that can be obtained.

As to the demand for and the propriety of establishing a Dental College in the City of Boston, for the accommodation of students of the New England States and the British Provinces, there is at present a diversity of opinion. That such an enterprise would be attended with desirable results, provided it were commenced and carried through with untiring energy, no one will doubt. But harrassing fears of failure seem to hide from view the possibility of accomplishing so great a work.

Are there not men of wealth in this community who will gladly aid us in establishing, on a firm basis, a school of instruction, where young men may be fitted for all the practical duties belonging to our profession? Until an effort is made in this direction, we shall never know how well or how poorly we might have succeeded. I trust the subject will receive from our hands that consideration which it so eminently deserves.

It is quite evident that there is yet much to be done, in private as well as associate capacity, in reforming abuses which have long been tolerated by dental practitioners and the public at large. The low fees charged by many for dental operations are a shame and disgrace to the profession. But, at the same time, it is all and more than they are worth; and when such are expostulated with, in reference to the quality of their operations and the fees charged, their reply is, "My patients will not pay me for good, first-class operations."

Now one of two things is true: either they cannot perform good and substantial operations required by patients generally, or they are a party to a system of empiricism which every honorable man should scout, from the early rising of the sun to the going down thereof.

Are the public to be the measurers and weighers of professional excellence, and wrest from individual practitioners the right and privilege to be honest, upright men? or shall they dictate to us a programme alike discreditable to them and to us? Verily, nay! But what shall be done when the patient has not the means wherewith to pay for thorough operations? Do your work well and thoroughly, if not half paid for it. You will then have the satisfaction, at least, of not having sacrificed your reputation for dollars and cents; nay, more, and the comfort of your patients, which is not to be computed by any monied consideration. The practice alluded to is a pernicious one; for it keeps at a low standard many whom we believe to be honest, but mistaken men, thereby entailing injury and disgrace upon the profession.

Let every man so avail himself of the facilities now easy of access as to acquit himself at the bar of his own enlightened conscience, and he will have little difficulty, if he is competent, in providing bread for himself and family, and honoring in some good degree the profession of which he is ever so humble a member.

Another evil exists, which calls for united action for its removal. I refer to the practice among some dentists (not of this Society, however,) of turning out *yearlings, or unfledged dentists*, who go forth with the prefix of *doctor* to their name, without any right to the assumption of such a distinguishing title, other than that they have entered in at one door, and passed out of another, of some dental office or laboratory; the head of which is first and mostly culpable in setting in motion this base imposition upon the community.

I hold that three years of diligent study and faithful practice, with the promise of graduating at some one of the Dental Colleges, is the only honorable way of rendering unto the profession its due, and affording the public those professional safeguards which they have a right to claim at our hands. Let it be understood that no man can have access to our offices as a student unless he shall comply with the above regulations, and a severe scourge to suffering humanity will be abated.

I will also call your attention to the practicability of frequently holding clinics, as being one of the best means of demonstrating "*the best modes of practice*" in the operative department of our profession. Light may be so arranged at clinical demonstrations as to allow of convenience in operating on many teeth which may come under our notice.

In conclusion, let a goodly fellowship unite us in the bonds of professional esteem, that we may jointly prosecute the work before us, with a view to the advancement in knowledge and skill commensurate with the greatness of our profession, and the increasing demand for our services. May our intelligence, skill and uprightness be worthy of emulation; that we may provoke others to eminent good works in the field of our chosen labor.

It is our duty to transmit to those who shall come after us, not only an honorable record as men, but to make that record replete with evidences of professional excellence, which shall command the respect and admiration of all true lovers of science. It needs no prophetic vision to measure the future, to foretell the rapid advancement of our profession in intelligence, ability and character. Its rapid growth for the past fifteen years is the earnest of this expectation; and its fulfillment the younger members of this Society may live to see accomplished. And may we never forget that

> "Years following years steal something every day;
> At last they steal us from ourselves away."

REVIEW.

To the Editor of the Register:

SIR:—There appears in the July number of the DENTAL REGISTER, an "original communication" entitled "What we most Need," wherein the writer sets forth the value of *thought* to the members of the Dental profession. My views coincide with his as far as regards the importance of *close thought;* but I do not agree with him in thinking it necessary to snub those men who have the courage to permit their names to appear in print at the end of an "original communication," "*so-called*," because their style is not as pure, or as much in accordance with the rules of syntax as it might be.

I should not, sir, however, venture to make any remarks upon the article I have alluded to were it not for one sentence, which appears towards the end. It is this, "We need a higher standard of dental literature if we expect to keep pace with the advance of science." Now, as the writer of "What we most Need" evidently looks down upon a great many who have a mistaken notion that *they* oil the *hubs* (whatever that means) of the universe, in the belief that *his* literary ability is immeasurably greater than theirs, I am tempted to examine his paper and see if the gentleman practices what he preaches.

To begin at the beginning.

We are told in the first paragraph that, "For centuries man *seemed inclined to follow the mad experiment* of living without thought." Now, without examining the philosophy of the sentence, what is the meaning of *to follow an experiment*. We hear people speak of "making an experiment," of "trying an experiment," and of "following up one experiment by another." This last cannot surely be the meaning of the phrase in the sentence quoted, for when people begin to make experiments it is a sure evidence that they *are thinking*. The fact is, as the sentence stands, it means that mankind, *by a powerful and unanimous effort of thought*, as shown in an inclination to try an experiment, was held for centuries in a divided state of mind as to the propriety of attempting an impossibility. If it does not mean that it means nothing.

In the second paragragh the writer's questions come so thick upon him that, out of breath, he answers all with another short question, regardless of whether the "hows" or the "whats" are most satisfied. In the third paragraph, second sentence, if the word "that" had been inserted before "*most*," it would save the writer from appearing to make an assertion when he intends only a quotation. The next sentence is peculiar. What purpose is "but" made to serve. Apparently it is a link between two sentences, the second of which depends upon the first. In this case, however, there is no dependence. Strip the compound sentence of its adjuncts. "Creation gives God as the author of all; but yet old thoughts may be clothed in new garbs, and beautified, etc."

When a sentence follows "but," it modifies, or should modify, the sentence preceding that word. "God is just, *but* He is merciful." We may not claim originality among men; *but* we may clothe old thoughts in new garbs. In this case, however, I am at a loss to see how the clothing of old thoughts in new garbs affects the fact that God is the author of all. The most striking feature, however, of the third paragraph is the last sentence beginning with "Not" and ending with "Plagiarist. Whether the writer was bewildered by the rapid outpouring of his own eloquence, or whether he was confused by the impudence of people who could compile from the writings of others, and send the result of their labors to the press under the title of an "original communication," I will not conjecture. I will only deal with the plain fact that here is produced in print a sentence, "so-called," without either *subject* or *predicate.*

Mr. Editor, do you think this paragraph is a fair specimen of standard Dental literature.

The second period of the next paragraph is in the same predicament as the last spoken of—subject and predicate are both absent. Perhaps this was intended for brevity; if so, it is a kind that is decidedly new to most people who speak the English language.

In the ninth paragraph it is impossible to tell whether the writer is arguing for or against the colleges.

I feel that I am trespassing, sir, too much on your valuable space; yet, one more extract, and I have done.

The first of the last three paragraphs begins thus: "We look to our journals as our hope. Let what is to be published be written with thought—close thought. Let none use *it* as an instrument to injure his brother." I have italicized the word "it," and ask what the word represents in this sentence? Certainly not "journals" nor "thought." What then? It may have been intended to represent "writing," or "the press;" but these words do not occur in any preceding portion of the paragraph. And yet only this supposition can save the unfortunate word from being a nondescript.

The fact is, sir, the writer of the article I have been quoting from, like many others, leaves too much to the imagination of the reader, and I do not think that he has attained so high a standard of dental literature that he can afford to despise the laws of syntax.

Apologizing for intruding so much on your space.

I remain, Sir,
Yours obediently,
A PUPIL.

STUFFING TEETH.

Editor Register:—In the March No. of the REGISTER appeared an *Editorial* on Stuffing Teeth, and in the July No. appeared a communication on the same subject. I was highly pleased with the *Editorial*, and cannot find fault with a part of the communication. I suppose that the reason I cannot find any fault with a portion of the communication is, that the part to which I allude was not written at all. "B," in his communication has just affirmed a thing without showing a single cause for his assertions; besides, he is too sweeping in his remarks; so much so, that some of these "old time operators" are very much incensed. The idea conveyed, if it is not expressed, is that all who fill teeth the old way are stuffers, in the sense of the caption. These very men to whom I have reference are of the very best class of operators; and if all the miserable stuffing of teeth were left for such operators as they are, my word for it, there would be little fault found with the dental profession for poor operations.

I am fully aware that some of these old practitioners of dentistry make the most miserable operations; but to say that many of those old style operators, and leave the reader to infer that they alone are doing all the "stuffing" of the teeth, is injustice to both classes of operators.

I am fully impressed with the belief that this is a good way to stir up this class of operators, to do their duty to themselves, and to the profession. And in doing so, if the worst comes to the worst, call names. I am sure that some men would blush to have their poor operations held up to the world as such. I know I should. But to the point.

The heading of this article implies that some body is filling teeth in such a manner that they will not stand the test. That is all very true. I will state what in my opinion is a poor filling. In the first place, a soft filling (I mean gold) is of very little account to the wearer. A filling that is not sufficiently hard to resist the secretions of the mouth, will be of very little service to the tooth. Some of the tests to which a filling may be submitted are, First: is it hard and firm? Secondly: does it fit up closely to every part of the wall of the cavity? Thirdly: does it stand out flush with every part of the cavity? Fourthly: is it solid from the bottom of the cavity, and if in an approximal cavity, does it fit up tight to the margin of the cavity next to the gum? If you find a filling so soft that to apply the flat side of a burnisher to it, you can settle it down, and in many cases mash out a creamy looking substance, you are safe in saying that that plug is of no account. I think such a filling had better not be there; the tooth in my opinion would be better without anything at all in it. Then again, a filling may be hard in the middle, and not fit close to the walls of the cavity, and be of as little benefit as though it were soft all through. About the time of the appearance of the March No. of the REGISTER, a young lady presented herself to have some teeth filled. On examination I found she had seven cavities that had been filled, three of which had fallen out. Of all the stuffing teeth that I had ever seen or heard of, I think this was the worst. This work had not been done by one of these old time dentists, but by a live young Indiana dentist.

I have heard the word "supremely ridiculous;" but I think this case was "supremely miserable butchery." An excavator might be run to the bottom of any of the fillings with ease. Had I the choice in the matter, I would much prefer the gold out of the teeth than in them. I removed the fillings, and found that he had not cleansed out the cavities at all, but had just scraped off a little of the out side of the decay and left the balance.

Some time since another young lady presented herself for the filling of some teeth, who had been in the hands of one of our old time operators. This was about the same as the first case, with one exception. He had used three kinds of materials, gold, amalgum, and os-artificial. The gold fillings were a spongy mass of stinking gold. The oxi-chloride of zinc was nearly all washed out, while the amalgam was black as charcoal, and really the best filling she had. In this, like the other case, the cavities had been poorly prepared.

Still one more case, and I am done. A gentleman who is abundantly able to pay for good operations, had been in the hands of two city dentists, (both graduates.) He wanted something done to his teeth. I found them in a very bad condition indeed. They were so nearly like both the above cases I have just mentioned that it is hardly necessary to particularize. He had gold and os-artificial in his teeth, neither of which was of any benefit to them.

As the mallet seems to be the only instrument that some men can fill a tooth with, I design a word on that instrument. I don't mean to cast a slur on those who use the mallet exclusively; by no means. I am one of that kind myself, in as far as I can use it. There are some teeth that I must confess I cannot fill with the mallet. I know some of our best operators who use the mallet altogether; but there are men who boast of their success with the mallet; and yet I doubt seriously whether they can fill a difficult cavity well with any kind of instrument. Yet they condemn all those who differ with their notions of things.

The mallet in the hands of those who use it, is probably the best instrument for filling they can use. I think I can fill a tooth better with the mallet than by any other process. While I think it the most efficient in may hands, I know of dentists who never use the mallet or adhesive foil, that can fill a tooth as well without it as I can with it. And in one class of cavities, and one particular condition of the mouth, I think they can beat me. That cavity is an approximal inferior molar or bicuspid cavity. In the condition is a profuse discharge of saliva.

To fill a tooth well with the mallet requires considerable practice, as well as a correct understanding of its use. Some men, I am persuaded, fail from want of a proper knowledge of how to use it, and not having a sufficient understanding of its application, fail; and because they do fail, they are ready to condemn all who use it, and assert that their fillings will ultimately fail also. The difference in the species of operators is the same as in everything else. Some men can never make a good mallet filling; others again will never make good soft foil fillers. Some men are naturally good blacksmiths, others are naturally good carpenters and joiners. Now no one would expect the man that is well adapted to the trade of blacksmithing to make a good wood workman. So it is with dentistry. Some can make a better filling of soft foil than they can of any other material. Others make better of adhesive foil than they can of anything else: and there are still others who cannot make good fillings of anything except amalgams. And I believe that a great many men have missed their forte entirely, by attempting to practice dentistry. But to those who are determined to practice dentistry I would say, find out how you can fill a tooth best, and leave others to do the same, and for the sake of harmony in the profession, let others alone. I don't mean by this that we will not meet in our societies, and discuss these things; but that we will not accuse our neighbor as being a quack, because he fills teeth different from us. If I had not met in these dental meetings, I presume I should be still trying to fill teeth the old way, (as it is called.) I hear of a new method, differing widely from any thing I have ever seen. It is the squirting process. I heard a dentist say, a few days ago, that he could take a "*squirt gun*" and squirt as good a gold filling into a tooth as some have, who come to his office.

I have already strung out this to very much greater length than I intended. So I will close by naming one man who never filled a tooth with the mallet in his life; and although now dead, yet there are thousands of fillings made with soft foil that have already stood for forty years, and will still stand as monuments to his memory as long as the patients live. I mean Dr. Badger.

Poor filling attaches to the operator, rather than the manner of the operation.

MAKE THE FOUNDATION FIRM!

BY G. W. DECAMP, D. D. S.

DENTAL COSMOS, vol. 7, page 652: "*Resolved*, That we individually recognize it to be our duty to earnestly advise all who are seeking to enter our profession to pursue a regular course of study in some dental college, in connection with private instruction."

This is good; but is it sufficient? Should there not first be a thorough education, so that this cap stone may rest on a fit foundation? Let us examine the walls, and see if they are strong enough to bear this weight, that we may build a durable temple, its halls and arches and towers remaining in beauty.

In rearing the temple of mental excellence, as in the material world, there must first be a preparation. The heart is the head of the corner. Its preparation is of God. Without it our structure will be hurled to the ground by every storm. If the heart be pure, the man will be full of light.

Each piece must be shaped for its place, or the whole will be weak. This is done alone by the Genius, Education. Knowledge does not comprise all that is contained in the term "Education." True and worthy motives are to be inspired, the feelings to be restrained, the passions to be conquered, morality to be inculcated under all circumstances, and the fear of God always abiding in the heart. "The fear of the Lord is the beginning of wisdom." All these are included in "Education."

That these may be, the first impressions made must be pure. If these be good the mind will advance. Yawning chasms, or burning mountains, or boiling seas, or heaving valleys, can not stop it. Onward and upward it goes to the goal of its ambition. It looks with longing on the distant hights; with solicitude and perseverance it struggles up the steps. Solici tude is characteristic of a strong mind. Man is conceived, nourished, born, acts his part, and dies, in solicitude.

If a young man persevere, I ask not the measure of his brain. He has a sure passport to success. If the heavens should fall, they would find him on the way to mental excellence. Throw away the false idea that "circumstances make the man." Man is the builder of his own fortune. There are no beds of ease on which to carry drones to victory. Difficulties must come, as smoke flies upward; that is by a law of nature. They are blessings. They stimulate to greater action, and teach the mind to conquer. By them its powers are developed.

What makes the Indian swift on foot, but the fleetness of the deer? The eye of the hunter is keen, because of the shrewdness of the game. The weight of the hammer gives strength to the blacksmith's arm. Who are the deepest reasoners, but those who have dared wrestle with great difficulties. What would the foal of the racer know of its power, if kept with the common herd, destined for the yoke? Difficulties arouse to action. Actions make the man.

That the mind may grow, it must be nourished. Man would not thrive if fed on apples. He needs a variety. The sciences are the food of the mind. Restrict it to any one, and it will become weak. The eye of the criminal confined to his cell is not as strong as that of the sailor, who looks from the mast-head.

It is not only necessary for all who intend to practice the science of Dentistry to be learned in what directly pertains to it, but they must be *educated.*

Some may object, by saying that it is not necessary. They will tell me that our fathers were not learned; that some of the brightest stars of the present entered the profession illiterate; and, with a great degree of satisfaction, fold their hands for a *little more* sleep. Thus would they block the wheels of progress, and banish us to everlasting ignorance.

Should we live in log huts because our fathers did? Should we refuse to improve our advantages because our fathers had them not? No! No! In the name of our God we cry, No! Deny me any pleasure, but deny me not the use of what I have. Humanity shudders at the thought. Talent is adverse to ignorance. Our advantages are greater than our fathers'; and although some of them, by herculean efforts, stand among the clouds, many worship at the shrine of ignorance. Our fathers improved what they had; we should do likewise. If we do, we shall be *better* than *they*. We must be *wiser* or *more ignorant.*

The position and respect which the title of D. D. S. is intended to command should urge a thorough education. If we respect ourselves we must aim at mental and moral excellence. Our land is covered with colleges, where the young may learn to think. There is no excuse for ignorance, when good books, the products of the richest minds and the labor of many years, are within the reach of all. If a thorough preparation is made, those who enter our profession may bless it, bless humanity, and be blessed of God.

That we may be, *Resolved,* That we individually recognize it to be our duty to earnestly constrain all who intend to enter our profession to educate themselves, so that they may be prepared to pursue a regular course of study in some dental college, in connection with private instruction. This is my hope.

Proceedings of Societies.

MINUTES OF THE OHIO DENTAL COLLEGE ASSOCIATION.

The regular annual meeting of the Ohio Dental College Association was held in the lecture room of the College, on Tuesday, February 20th, 1866, at 11 o'clock A. M.

The President, Dr. J. G. Cameron, called the meeting to order.

The following members were present: Doctors A. Berry, J. G. Cameron, Geo. H. Cushing, H. A. Smith, M. DeCamp, H. R. Smith, W. W. Allport, James Taylor, C. W. Spalding, James Leslie, H. J. McKellops, Geo. Watt, C. B. Chapman, W. H. Morgan, A. S. Talbert, G. W. Redman, W. H. Shadoan, S. N. Rhoades, A. A. Blount, J. Taft, Geo. W. Keely, J. P. Ulery, B. D. Wheeler.

The minutes of the last meeting were read.

The Committee on the Amendment of the Charter made the following report:

Your committee to whom was referred the work of securing an amendment to the charter of this institution from the Legislature of the State of Ohio would report that they have accomplished the work assigned them—securing such an amendment to the charter as was indicated at the last annual meeting of this body. It is as follows, viz:

CHARTER.

A BILL

TO REGULATE COLLEGES OF DENTAL SURGERY.

Section 1. "*Be it enacted by the General Assembly of the State of Ohio*, That the Board of Trustees of any College of Dental Surgery heretofore incorporated and organized under any law of this State shall consist of nine members, and shall be elected by the stockholders of such College in a manner hereinafter provided.

Sec. 2. "The stockholders of such College of Dental Surgery shall, at their first annual meeting after the passage of this act, proceed to elect nine Trustees of such College, three of whom to serve as such for two years, and three of whom to serve as such for three years, and annually thereafter shall elect three Trustees to serve for the term of three years; *Provided*, that vacancies in said Board of Trustees occurring from any other cause than expiration of the time of the Trustee creating such vacancy shall be filled by the election by said stockholders of a Trustee or Trustees to serve only for the unexpired part of such term.

Sec. 3. "This act shall be in force from and after its passage."

J. TAFT,
J. TAYLOR,
W. P. HORTON,
Committee.

On motion,

Resolved, That the election of a Board of Trustees be the special order of business for Thursday morning at 9 o'clock.

The following persons having become stockholders, their names were proposed for membership in this association, viz: W. W. Sheffield, New London, Conn.; J. C. Dean, Chicago, Ills.; H. S. Chase, Iowa City, Iowa; S. J. Cobb, Nashville, Tenn.; W. H. Morgan, Nashville, Tenn.; A. A. Blount, Springfield, O., and W. H. Shadoan, Louisville, Ky. Upon balloting, all were found to be unanimously elected.

Dr. Allport moved that a committee of three be appointed to nominate candidates for officers for the ensuing year.

Drs. Allport, Spalding and Berry were appointed that committee.

It was moved that a committee of three be appointed to nominate candidates for a Board of Trustees.

That committee was constituted by the appointment of Drs. Geo. H. Cushing, H. J. McKellops and H. A. Smith.

The committee for the nomination of officers reported as follows:

President—H. J. McKellops.
First Vice-President—H. A. Smith.
Second Vice-President—J. C. Dean.
Secretary—J. Taft.
Treasurer—J. G. Cameron.

Upon balloting, the nominations were all confirmed.

The following bill was presented and ordered to be paid:

Ohio Dental College Association,

To J. TAFT,	*Dr.*
To expenses incurred in the procurement of the amendment to the charter	$25 00

CINCINNATI, February 20th, 1866.

Adjourned till 2 o'clock P. M.

FIRST DAY—*Afternoon Session.*

Association met according to adjournment, President Dr. Cameron in the Chair.

Minutes of the morning session were read and approved.

The time having arrived for installing the newly-chosen officers, Drs. Spalding and Allport were appointed a committee to conduct the President elect to the Chair; upon taking which he expressed a just appreciation of the honor conferred upon him, and solicited the cooperation of all the members present in the accomplishment of the work which laid before them.

The Treasurer made the following report:

"The Treasurer would respectfully submit the following:

JAMES TAYLOR, in account with Ohio Dental College Association, *Dr.*

To cash received on stock, since last report, of

A. Blake	$100 00
J. G. Cameron	100 00
B. D. Wheeler	50 00
N. B. Slayton	100 00
L. D. Walter	20 00
S. J. Cobb	100 00
J. Taft	100 00

J. C. Dean	100 00
W. W. Allport	60 00
H. A. Smith	100 00
H. R. Smith	57 53
Geo. E. Jones	57 53
J. Chesebrough	36 32
Balance on hand at last report	173 91
	1,155 59

Drs. Spalding and Cushing were appointed an auditing committee, who having examined the above account, reported it to be correct.

Dr. Taylor made some explanatory remarks in regard to unpaid stock, in which he presented the fact that a small amount was yet unprovided for to liquidate the entire indebtedness upon the institution.

The President appointed the following gentlemen as collectors of stock due at the places named:

J. B. Dunlevy, Pittsburg, Pa.
George H. Cushing, Chicago, Ills.
A. M. Leslie, St. Louis, Mo.
W. P. Horton, Cleveland, O.
A. Berry, Cincinnati, O.

The Faculty presented the following report, viz:

REPORT OF THE FACULTY OF THE OHIO COLLEGE OF DENTAL SURGERY FOR THE SESSION ENDING FEBRUARY 21, 1866.

To the President of the Ohio Dental College Association:

The Faculty of the Ohio College of Dental Surgery respectfully report that as early as practicable after the last annual meeting of this Association, the members of the Faculty met and organized by electing Dr. J. Taft Dean.

The Annual Announcement was issued, and such other measures were adopted as were thought necessary to the efficiency of the coming session. These included the appointment of three demonstrators respectively for the departments of Anatomy, Operative and Mechanical Dentistry, the selections being made by the professors of these departments.

Two of the demonstrators, we believe, discharged the duties assigned them with faithfulness and energy, thus adding much to the thoroughness of the course. The other, in response to the call of other duties, we suppose, left the city during the session, and the professor of the department (Mechanical Dentistry) attended to the demonstrations as well as the lectures.

The session began the first Monday of November, a preliminary course having been given from the middle of October. The Professor of Chemistry was unable to lecture at the beginning of the session, and a private arrangement was made by which the class was able, for a few weeks, to hear the chemical lectures of the Miami Medical College, which arrangement, we hope, has given reasonable satisfaction to those interested. The other professors were able to complete their full courses without interruption.

We have the satisfaction to report a larger class than was ever present before in the institution, the number of matriculants being forty-one.

The graduating class is also larger than usual, the number being nineteen, and their names as follows:

P. J. Collins, W. H. Pabodie, Miss L. B. Hobbs, H. Newington, George L. Shepard, R. C. Morgan, J. P. Holmes, F. C. Eddelman, W. H. Woodward, A. A. Blount, R. A. Alloway, M. Stout, D. A. Wilder, C. C. Chittenden, A. E. Lyman, J. Nelson, G. W. DeCamp, Geo. P. Ketchum, N. B. Stump.

It will be observed that among these is the name of a lady, which is worthy of notice, as, we believe, the first lady graduate of a Dental College.

The opportunities for clinical instruction during the session have been good.

It is with pleasure we bear testimony to the urbanity and studious habits of the class. The improvement has been manifest, both with the graduates and juniors, and we feel free to state that the class of this session may be regarded as a valuable accession to our ranks, both on account of their correct professional attainments and their extended knowledge of general and collateral sciences. In reference to the latter, they probably surpass any preceding class of the institution. This is as it should be; for, with increased educational facilities, we have a right to expect and demand higher attainments.

Contributions from various members of the profession were made during the year, for improvements of the College building, and for appliances in the Infirmary and Mechanical Laboratory. These, amounting to $503, have been carefully expended, and in addition a sum of $200, appropriated by the Faculty, has been spent in the same way.

As dental collegiate education is of but recent origin, and as there are in the profession many worthy, active, scientific and progressive men, who from age, family ties, or other circumstances beyond their control, are so tied down as to render it impracticable for them to attend a course of lectures, the Faculty has thought proper to recommend a number of such to the Board of Trustees for honorary degrees, and we are happy to state that the Board have cordially carried out our recommendations. The names of the Honorary Graduates are as follows:

C. R. Taft, J. Armstrong, S. B. Smith, B. F. Robinson, F. S. Slosson, B. T. Spelman, C. Palmer, A. W. Maxwell, S. M. Rhoades, J. B. Beauman, C. H. Harroun, R. McDowell, S. W. McDowell, W. H. Shadoan, E. L. Clark, J. A. Robinson, C. N. Woodward.

The Faculty recommend a lengthening of the session, so as to have eight weeks of lectures previous to the holiday vacation, and to have the commencement exercises on the first Wednesday in March. We also suggest that the title of the Chair of "INSTITUTES OF DENTAL SCIENCE" be changed to SPECIAL HISTOLOGY, PHYSIOLOGY AND PATHOLOGY.

Some additional chairs and other appliances are needed in the Infirmary, some lathes and accompaniments in the Mechanical Laboratory, and a supply of apparatus for the chemical department, as well as miscellaneous appliances for general illustration. With these and a relief from its indebtedness, we think a prosperous and useful career awaits your institution.

Respectfully submitted by the Faculty.

On motion, the report was accepted.

The changes recommended in the report of the Faculty were, on motion, adopted.

Remarks were made by various members of the Association, in regard to the practical departments of the College.

Various suggestions were made, with a view of attaining improvement and progress.

Resolved, That the Board of Trustees be requested to procure the services of an efficient demonstrator, or demonstrators, for these departments.

Adjourned to 9 o'clock A. M. Thursday next.

SECOND DAY—*Morning Session.*

THURSDAY MORNING.

The Association met according to adjournment.

The minutes of the last session were read and approved.

On motion,

Resolved, That this Association hereby accept the amendment to the charter of the Ohio College of Dental Surgery, recently enacted by the Legislature of the State of Ohio.

The Nominating Committee having presented a list of names from which to select nine Trustees for this institution, as provided for by the amended charter, the election of the Board was now declared to be in order.

At this juncture some inquiry was made in regard to the manner of voting for the Trustees. It was decided that proxy votes should not be permitted.

Upon balloting, the following persons were found to be elected, viz:

W. W. Allport,
G. W. Keely,
James Taylor,
A. S. Talbert,
H. A. Smith,
H. J. McKellops,
A. Berry,
B. D. Wheeler,
W. H. Morgan.

On motion,

Resolved, That a committee of three be appointed to revise the Constitution.

Drs. C. W. Spalding, James Taylor and J. Taft.

The committee appointed two years ago to solicit funds, appliances, specimens, &c., were called upon for a report.

They reported that in money about $500 had been contributed, as well as quite a variety of appliances and instruments, and among these are

A dental chair and footstool, worth $100, contributed by R. Archer, of Rochester, N. Y.

Also, a chair and footstool, by J. S. Walters & Co., of Cincinnati, worth $60.

Two Buckeye Vulcanizers, by Wardle & James, worth $25.

Also, dental goods, by James Leslie, $25.

Dr. McKellops also reported that he had received a contribution from Dr. A. Preterre, of Paris, France—a number of beautiful models, representing various deformities of the mouth, such as cleft palate, fractures and absence of the maxillaries, absence of the tongue, together with the methods of, and appliances for, remedying these defects.

These appliances were brought before the Association, exhibited and fully explained by Dr. McKellops, who had seen nearly all the cases represented by these models, and he gave testimony to the very great efficiency of all these appliances.

On motion,

Resolved, That the thanks of this Association are due, and are hereby tendered to Dr. A. Preterre, of Paris, France, for the beautiful models, lately received from him, of six very interesting cases occurring in his practice, and successfully treated by him. These cases comprise three of congenital cleft palate, two of which are very remarkable, the model of the third showing the method by which Dr. P. remedied the defect by means of an inflexible obturator.

One of the three remaining models exhibits a case of mal-occlusion of the jaws, another the loss of the tongue, and the third the loss of a portion of one of the alæ of the nose.

These models serve to demonstrate the progress which the science and art of dentistry is making in the old world.

2d. *Resolved*, That the Secretary of this Association be requested to furnish Dr. Preterre with a copy of these resolutions.

A vote of thanks was also tendered to all those who have made contributions to this institution.

On motion, the following persons were appointed to receive contributions of preparations, &c., &c., for the College, viz

Drs. A. Berry, of Cincinnati, Chairman; J. C. Dean, of Chicago; A. S. Talbert, of Lexington, Ky.; H. J. McKellops, of St. Louis, Mo.; J. B. Dunlevy, of Pittsburg; Jas. Knapp, of New Orleans; W. W. Allport, of Chicago; A. M. Leslie, of St. Louis; M. DeCamp, of Mansfield, O.; W. H. Shadoan, of Louisville, Ky.; A. A. Blount, of Springfield, O.; W. H. Morgan, of Nashville; N. B. Slayton, of Florence, Italy; W. P. Horton, of Cleveland, O.

On motion, proceeded to appoint delegates to the American Dental Association, to meet in Boston July next.

The following were chosen:

Drs. A. S. Talbert, W. H. Shadoan, H. R. Smith, J. P. Ulrey, Geo. W. Keely, A. A. Blount, M. DeCamp, J. Chesebrough, G. W. Redman, James Taylor, W. W. Allport, J. A. McClelland, B. D. Wheeler.

Adjourned to meet on the first Tuesday of March, 1867, 10 o'clock A. M.

J. TAFT, Secretary.

Selections.

RHIGOLENE.—A PETROLEUM NAPHTA FOR PRODUCING ANÆSTHESIA BY FREEZING.

[Read before the Boston Society for Medical Improvement, April 9th 1866, and communicated for the Boston Medical and Surgical Journal.]

By Henry J. Bigelow, M. D., Professor of Surgery in the Massachusetts Medical College.

The above name is proposed as convenient to designate a petroleum naphtha boiling at 70° F., one of the most volatile liquids obtained by the distillation of petroleum, and which has been applied to the production of cold by evaporation. It is a hydrocarbon, wholly destitute of oxygen, and is the lightest of all known liquids, having a specific gravity of 0.625. It has been shown that petroleum, vaporized and carefully condensed at different temperatures, offers a regular series of products which present more material differences than that of their degree of volatility, and that the present product is probably a combination of some of the known products of petroleum with those volatile and gaseous ones not yet fully examined, and to which this fluid owes its great volatility. A few of these combinations are already known in trade, as benzolene, kerosene, kerosolene, gasolene, &c., all of them naphthas, but varying with different manufacturers. I procured, 1861, a quantity of kerosolene of four different densities, and found the lightest of them, the boiling point of which was about 90°, to be an efficient anæsthetic by inhalation. When it was learned here that Mr. Richardson, of London, had produced a useful anæsthesia by freezing through the agency of ether vapor, reducing the temperature to 6° below zero, F., it occurred to me that a very volatile product of petroleum might be more sure to congeal the tissues, besides being far less expensive, than ether. Mr. Merrill having, at my request, manufactured a liquid of which the boiling point was 70° F., it proved that the mercury was easily depressed by this agent to 19° below zero, and that the skin could be with certainty frozen hard in five or ten seconds. A lower temperature might doubtless be produced, were it not for the ice which surrounds the bulb of the thermometer. This result may be approximately effected by the common and familiar "spray producer," the concentric tubes of Mr. Richardson not being absolutely necessary to congeal the tissues with the rhigolene, as in his experiments with common ether. I have for convenience used a glass phial, through the cork of which passes a metal tube for the fluid, the air-tube being outside, and bent at its extremity so as to meet the fluid-tube at right angles, at some distance from the neck of the bottle. Air is not admitted to the bottle, as in Mr. Richardson's apparatus, the vapor of the rhigolene generated by the warmth of the hand applied externally being sufficient to prevent a vacuum and to ensure its free delivery; 15° below zero is easily produced by this apparatus. The bottle, when not in use, should be kept tightly corked, a precaution by no means superfluous, as the liquid readily loses its more volatile parts by evaporation, leaving a denser and consequently less efficient residue. In this, and in several more expensive forms of apparatus in metal, both with and without the concentric tubes, I have found the sizes of 72 and 78 of Stubs's steel wire gauge to work well for the air and fluid orifices respectively; and it may be added that metal points reduced to sharp edges are preferable to glass, which, by its non-conducting properties, allows the orifices to become obstructed by frozen aqueous vapor.

Freezing by rhigolene is far more sure than by ether, as suggested by Mr. Richardson, inasmuch as common ether, boiling only at about 96° instead of 70°, often fails to produce an adequate degree of cold. The rhigolene is more convenient and more easily controlled than the freezing mixtures hitherto employed. Being quick in its action, inexpensive and comparatively odorless, it will supersede general or local anæsthesia by ether or chloroform for small operations and in private houses. The opening of felons and other abscesses, the removal of small tumors, small incisions, excisions and evulsions, and perhaps the extraction of teeth, may be thus effected with admirable ease and certainty; and for these purposes surgeons will use it, as also, perhaps, for the relief of neuralgia, chronic rheumatism, &c., and as a styptic, and for the destruction by freezing of erectile and other growths. But for large operations it is obviously less convenient than general anæsthesia, and will never supersede it. Applied to the skin, a first degree of congelation is evanescent; if protracted longer, it is followed by redness and desquamation, which may be possibly averted by the local bleeding of an incision; but if continued or used on a large scale, the dangers of frostbite and mortification must be imminent.

It may be superfluous to add that both the liquid and the vapor of rhigolene are highly inflammable.

* * *

ALUMINIUM AS A BASE FOR ARTIFICIAL TEETH.

(Read before the Massachusetts Dental Society, Jan. 8th, 1866, by N. C. Keep, M.D., President, and communicated for the Boston Medical and Surgical Journal.

Discovered by Wöhler in 1828, aluminium was known only by name until the genius of Deville, aided by the patronage of the French Emperor, overcame the obstacles which up to that time had proved insurmountable, and presented to the world the pure metal in a form available for use. At first it was produced in small quantities and at very high cost. I well remember the first specimen which came across the Atlantic, which cost more than its weight in gold.

The announcement of a new metal available for practical purposes made a great sensation throughout the civilized world. Every cabinet wanted a specimen, and for a long time the whole production was absorbed for this purpose. Still there were forecastings as to the uses to which this metal might be applied, when by improved processes it should become abundant and comparatively cheap. I well remember my own high hopes that I might use it instead of gold, and my disappointment when I found I did not possess the knowledge of the peculiar laws by which it could be made into plates, &c., and after a moderate effort I laid aside my specimens.

So far as I know, Dr. C. A. Fowler, of our own State, has the enviable distinction of being the first by his perseverance to actually overcome these difficulties, and to him I am indebted for the metal in a ductile form and the plan of using it without solder. In his process all the different parts are united by rubber, which has first been combined with comminuted aluminium. With this material all vacancies are obviated, desirable forms made, and the unity of the piece secured. When vulcanized and polished, it has a metallic lustre and an approximate resemblance to the metallic plate. The use of aluminium by jewellers, and their appreciation of its value, are sufficiently well known.

The advantages of alluminium in dentistry are:—

1st. It is sufficiently strong and unyielding (having almost no elasticity) to meet all the forces which it may be legitimately called upon to resist.

2d. Its very low specific gravity, 2·40, only 2½ half times heavier than water, enables the dentist to offer to his invalid patient a lighter set of teeth than by any other material now in use for base.

3d. Aluminium is not discolored by sulphuretted hydrogen, and is not acted upon by any acids which are likely to be found in the mouth, or by any of the secretions of the mouth, and does not discolor in use.

4th. Alluminium is a pure metal. All alloys are to some extent subject to galvanic action. It is well known that while gold plates were generally used, intelligent and conscientious dentists made their gold plates not less than three-fourths pure gold and one fourth alloy, and would have used pure gold had it not been too soft for plates. Ignorant and unscrupulous dentists often used a much larger per cent. of alloy, to the great discomfort of the wearer. Aluminium for plates should be pure; there is no excuse for introducing any alloy. They will thus be entirely free from the galvanic action incident to alloys.

5th. Aluminium is entirely innocuous. Neither the medal nor its salts can become poisonous. Plates of aluminium are easily brushed and kept free from foreign accumulations.

6th. They have the advantage over rubber in being strong and thin, taking up very little room in the mouth. Being thin, they do not give the impression of heat, which troubles some persons very much.

7th. By using aluminium we avoid the bi-sulphuret of mercury, which, though a soluble article, has excited solicitude in many minds; and as it constitutes about one half of the "red rubber" we would shun even the appearance of evil and let it alone.

In conclusion, we may congratulate the public that a new article is presented for their choice in artificial dentisty that fills more of the conditions desirable than any other at present or heretofore in use; and we confidently expect that those who have suffered from the weight of their artificial teeth, or from the galvanic action of mixed metals, or the yielding of elastic materials, or from uncomfortable thickness of rubber, or from the fear of injury by reason of the poisonous coloring matter used in red rubber, or from the sensation of heat occasioned by the rubber, which as now used is a bad conductor of caloric, or those who may desire a more artistic, highly-finished, easily cleansed, agreeable and comfortable substitute, will have occassion to thank M. Deville for producing alluminium in available quantity, and Dr. Fowler for his successful perseverance in bringing it into practical use for dental purposes.

To the dentist who should ask whether he had better abandon all other articles and attach himself to this only as a base for artificial teeth, I would say, this is not adapted to cheap dentistry. In the first place, the use of aluminium for dental purposes is patented, and we have no reason to think this patent "unjust or illegal." Then the labor and care in working being much greater than is now generally bestowed on rubber work, if you are contented and your patients are satisfied, these improvements will do you no good. But to the lover of progress, aiming at perfection, and to those who do not shrink from labor for the "substitutes" which can be produced, I cordially recommend a trial.

ETHER VS. CHLOROFORM.

The use of chloroform as an anæsthetic was lately discussed in the Paris Academy of Science, in a paper by Dr. Petrequin, of Lyons. He favors the use of ether, and shows that the former inconveniences attending its use have been obviated. Dr. Petrequin says:

"These inconveniences were removed by the etherizing bag, invented by a physician of Lyons, and also by the improved methods devised for obtaining ether perfectly pure. At present the operation of etherizing proceeds in a most satisfactory manner. The patient lies in a horizontal posture, with his head slightly raised in order to prevent his swallowing any ether; about twenty-four grammes of ether are poured at once on the sponges of the bag; the patient is directed to inhale copiously; the orifice of the bag is then closed, and the dose of ether doubled. The patients eyes are carefully bandaged, and the profoundest silence is observed;

in this way anæsthesia is promptly obtained without agitation. It is easy to prevent accidents by closely observing the circulation and breathing. In general the pulse is first accelerated, then becomes regular again; were it to become concentrated, irregular, or low, the inhalations should be stopped and air administered. As to the breathing, it is at first subdued, but soon becomes complete. If it were to become difficult or interrupted, the apparatus should be removed and the fan used. In this way there has not been a single death at Lyons by etherization for the last fourteen years, while, according to DR. VELPEAU'S own showing, the use of chloroform is never unaccompanied by danger.

"To this paper DR. VELPEAU replied, that there had indeed been a few deaths by chloroform, but it was not quite certain that there had been none by ether. At all events, he (DR. VELPEAU) had for the last fifteen years been administering chloroform to several thousand patients, and had never seen any die from that cause."

ANOTHER CHLOROFORM CASE.

The following we copy from a Bloomington, Ill. paper. It occured on the second of June ult. It is another strong witness against the indiscriminate use of Chloroform as an anæsthetic for the extraction of teeth. We have lost all kind of patience with those who will persist in its constant use for simple operations. We suppose every one feels like the boy who uses fire arms, he knows that a great many other boys have been shot, but never dreams that such a thing could occur to him. In this case as in all others, a jury being called, &c., goes on to state that no blame or censure is attributable to any person. Now did that jury believe that statement? Is the minds of those who administered the chloroform perfectly at rest in regard to the matter. What, go on using an agent—that has caused hundreds and perhaps thousands of deaths—for a simple operation, till death occurs while cautions and admonitions are coming up from all quarters and in all shapes; and yet nobody to blame. We don't believe it; a coroner's jury to the contrary notwithstanding. We believe the day is not far distant when legal enactment will place this matter of the indiscriminate and almost universal use of Chloroform where it ought to be under proper restriction.

A SAD CASE.—Saturday forenoon, a very estimable young lady, Miss Margaret Hughes, aged twenty one years, died from the effects of inhaling chloroform. Coroner Mark Ross called a jury, and an inquest was held. The verdict avers that the deceased came to her death from the effects of inhaling chloroform administered by Dr. C. R. Parke, and goes on to state that no blame or censure is attributable to any person. We have taken pains to learn the exact facts in the case. Dr. Lee Allen gave her chloroform last Wednesday, and extracted six or eight teeth, no disagreeable effects having been noticed. On Thursday and Friday she taught school, and Saturday forenoon, at her urgent request, Dr. Parke went with her to Dr. Allen's office and administered the chloroform. The total quantity used was less than the average amount required in such cases. At first but a small quantity was given, and two or three teeth or fangs were taken out, causing a little pain. A little more was then carefully given, and before Dr. A. had finished, the patient fainted. Although everything was done, a galvanic battery tried, &c., she never roused, but quietly and easily sank to her rest. Dr. Luce was on the walk near the office, and was immediately called in, and the united testimony of all who were present, including W. E. Hughes brother of the diseased, shows that everything possible was done without avail. Dr. Parke has administered chloroform in more than a thousand cases, but never saw a patient die before. It is one of those cases which are unexplainable. No one can tell why it is that different individuals require such different quantities of chloroform to cause insensibility. In this case the quantity taken was less than a fourth of what some persons require for the same operation.

Miss Hughes had a large circle of friends, her gentle manners having won all hearts.

* * *

ETHERIZATION.—M. Velpeau has communicated to the Academy some remarks of M. Petrequin, of Lyons, about etherization. Ether, employed by Dr. Jackson in 1846, was replaced by chloroform in 1849. Chloroform, as a chemical body, was discovered by MM. Soubeiran and Pelouze; and its physiological action was tried for the first time by M. Flourens. But, if chloroform acts more rapidly than ether as an anæsthetic, it is also more destructive in its effects; and consequently surgeons in the south of France never employ it. M. Buisson, in a work which received a recompense from the Academy some years ago, wrote against chloroform—an agent "wonderful and terrible," as Flourens said of it. M. Petrequin now tells us that for fifteen years the surgeons of Lyons have employed ether only, and that they have never lost a patient. M. Velpeau hereon observed, that fatal accidents had been much more frequent abroad, and especially in England, than in France, and in the departments of France than in Paris. Much, therefore, depends upon the care with which chloroform is used. He had himself put thousand of patients under chloroform, and had never met with the slightest accident.—[British Medical Journal, Jan. 6, 1866.

* * *

CHLOROFORM.—The frequent fatal accidents from the administration of chloroform have had this result that the use of this anæsthetic is gradually being discarded by the profession. In Lyons it has not been used for years, and the medical society of that city has after long discussion, adopted unanimously the following conclusions:

1. Rectified ether employed as an anæsthetic is less dangerous than chloroform. 2. Anæsthesia is produced as regularly and completely by rectified ether as by chloroform. 3. Ether is in some respects less convenient in use than chloroform; but the inconveniences attending its use are of little consequence when compared with the dangers inherent in the employment of chloroform. 4. Consequently, ether should be preferred to chloroform.

* * *

A HUMAN CURIOSITY.—The Berlin newspapers have the following curious paragraph: A Hungarian girl, born at Oedenburg, without hands, now twenty years of age, has been giving some curious representations in the Prussian capital. She performs with her mouth the functions of hands. She sews, embroiders, executes the most delicate work with pearls, even threads her needle and makes knots, all with the tongue, apparently without difficulty, and certainly without the assistance of any one Part of the works thus executed are destined for public exhibition." Most people will. hestitate to believe such marvels until they witness them.

* * *

Stomatoscope.—Among other novelties noticed in the *Med. Times and Gaz.*, is "a new instrument, to be termed the *stomatoscope*, exhibited last week to the Paris Surgical Society, by its inventor, Professor Burns, of Breslau. A platinum spiral wire (inclosed in a box-wood cup, to prevent the transmission of heat,) brought to a red heat by the passage of an electric current from two of Middledorps' elements, is placed in the mouth behind the teeth. The light reflected by a very small mirror is sufficiently intense to render the jaw transparent, so as to allow of the vessels proceeding to the roots of the teeth, the smallest specks of caries, etc, becoming visible. By reason of the transparency, the labial coronary artery may in some subjects be seen at the level of the commissure, and its course followed. The instrument is therefore likely to form a useful means of exploration in dental affections."

Editorial.

AMERICAN DENTAL ASSOCIATION.

The annual meeting of this body was held in Boston, beginning on Tuesday, the —th of July, and continued in session seven days; three days longer than ever before.

A large amount of business was brought before the meeting, and a great deal was accomplished, notwithstanding some complained that more was not done; but it should be remembered that large bodies do not transact business with the rapidity of smaller ones.

The American Medical Association became apprised of that fact some time ago, and introduced such arrangements as to obviate the difficulty. And it may become necessary in the future for the American Dental Association to do more of its business through committees, or sections; of this, however, the necessities of the future will indicate.

Great harmony and unanimity prevailed in the accomplishment of all the strictly legitimate work of the Association.

It would be impossible here to speak of, much less to present in detail, all that was done. Quite a number of strictly professional subjects were presented and discussed. There were some, however, that could hardly be regarded as professional, that came in for their full share of consideration.

The rubber question ("*Monsieur Tonson come again*") came up in all its ruggedness, and demanded and received of the Association much consideration and time.

This is one of the subjects that refuse to be settled. It yet remains to be seen whether the action then had will prove a finality. But of this subject we will have more to say in the future.

Another very important item of business accomplished was the preparation and adoption of a *Code of Ethics.* This, we think, will exert a great influence for good upon the profession. It fixes a definite standard of professional conduct, and will be a very happy guide for all those engaged in associated efforts for the elevation and advancement of the profession.

This code should, and doubtless will, be adopted by all local societies, and especially by those represented in the National Association, for it would be altogether inconsistent for any society that would not recognize and be governed by such code to be represented in the central body.

The American Dental Association is made up of delegates from the local societies, and these delegates are the persons who adopted this code, and they are necessarily bound by it; but it would be wholly inconsistent for such persons only as had been delegates to be subject to the wholesome regulations of this code, while their fellow members of their respective local societies who had not been delegates regarded themselves as not amenable to it or bound by it, but could with impunity run counter to its wholesome rules. We think this view must be taken of it by all local societies, and that all will adopt it. We do not think the Central Association could or would admit delegates hereafter from a society that would not adopt its code of ethics.

Many good papers were read upon the stated subjects by the respective committees, and also quite a number of volunteer papers, many of which were very good.

So much of a purely business character crowded upon the meeting that but little time was afforded for clinic exercises, though ample preparations were made for them. There were on exhibition a great number of instruments and appliances, many of them new, and most of them very good. A good arrangement was made for the exhibition of all these. We think, however, that an improvement might be made in reference to these things, in the following manner: Let there be a committee of three appointed, whose business it shall be to receive all such instruments and appliances, with a full and complete description of each; then, at a time appointed for the purpose, it should be the duty of this committee to exhibit, describe and give all needed information of each article before the Association. Such committee, of course, should have some discretionary power. In this way everything of value would be brought fully to the notice of the Association.

We know that at this meeting—and it has been so before—there were many valuable instruments that were not examined by or described to a large number of the members, which would not be the case under such an arrangement as we suggest.

For the kind regard, attention and hospitality of our brethren of New England, and especially those of Boston and vicinity, we have the highest appreciation and kindest remembrance, and in this we but reiterate the sentiments of all those from a distance. Indeed, it was in every one's *mouth*, as we can testify.

Upon the seventh day of the meeting, in the afternoon, it adjourned to meet in Cincinnati on the last Tuesday of July, 1867. Selecting this place we think one of the best things that was done. Every year the profession look forward to these meetings with an increasing interest.

Quite a number of societies were represented at this meeting which have been organized within the last year; and we hope to see the good work go on with equal if not greater energy for the coming year.

AN ADDRESS TO THE MEMBERS OF THE MISSOURI DENTAL ASSOCIATION.

BY DR. H. E. PEEBLES, PRESIDENT.

We have perused this communication of Dr. P. with much interest, and are much pleased at the professional progress indicated by it in Missouri. The almost total want of effort by the profession in Missouri, which the Doctor seems so much to lament, hardly finds a verification in the opinions which we have entertained upon the subject. We have always felt that the profession, at least in St. Louis and vicinity, were abreast with the foremost in progress and development, and this, we think, is a very general opinion.

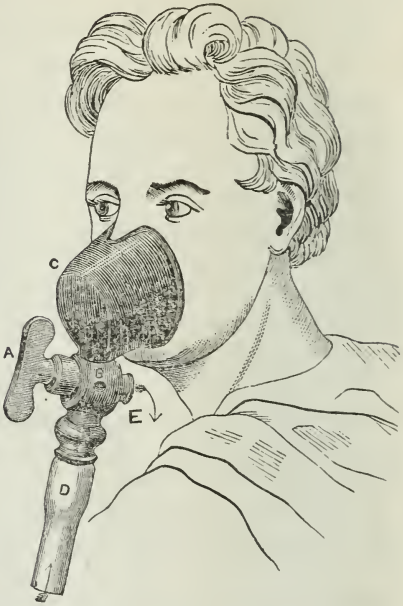
The organization of a State Association is a move in the right direction (every State *must* have its society), and will result in great good, not only in the State, but will serve as a stimulus upon the whole profession.

We learn from this that an effort is also being made to establish a Dental College in St. Louis. We presume, however, that it will be in connection with one of the medical schools.

More dental colleges are needed to answer the real requirements of the profession. But to the union of a dental with a medical school there has been much objection. Much care, doubtless, should be exercised in organizing a dental college under such an arrangement, but under favorable circumstances it may be done. We shall be glad to record the St. Louis Dental College as a *fixed fact.* This address will doubtless stir up the profession in Missouri to the performance of their duty. It is also gratifying to note that a movement is on foot to secure protection by legal enactment, and we doubt not the effort will be attended with success. Let progress be the watchword.

A NEW INHALER FOR ALL ANÆSTHETICS.

The accompanying cut represents a new inhaler for all anæsthetics, invented by Dr. D. H. Goodwillie, of New York, and, we presume, a very valuable instrument. In addition to the cut, the following description will give a very accurate idea of the instrument:



A, Faucet containing the valves, and revolving quarter of a circle.

B, Face piece, two sizes.

D, Inhalation valve.

E, Exhalation valve.

The superiority of the Inhaler consists in its simplicity, safety, efficiency and economy.

The two face pieces of different sizes will fit all cases. The patient can breathe by the nose or mouth. The mouth can be held open by the face piece if desired.

Direct the patient to open the mouth before the Inhaler is applied to the face, and by a slight pressure the mouth can be kept open during inhalation. The breath (carbonic acid) is thrown off and not rebreathed, thus avoiding asphyxia.

The Inhaler is well adapted to the administration of nitrous oxyde. It is also equally well adapted to the administration of chloroform or ether, as fresh air can be admitted (at B, by revolving faucet A,) in any desired quantity, so essential in giving these anæsthetic agents. Chloroform or ether are inhaled directly from the bottle, by an inhalation cork; none of it is wasted—a great saving compared with the ordinary way of giving it.

PULP EXTRACTORS.

We have received beautiful samples of these little instruments, one package from Dr. J. S. Latimer, of New York City, and another from S. S. White. The instruments in these two packages are so nearly alike in every apparent respect that one would think them made by the same hand. They are very delicate and more perfectly barbed than any we have seen. They catch readily and hold tenaciously any thing in the shape of tooth pulp that may be brought in contact with them. They constitute a beautiful example of the progress that has been made, in comparatively a short time, in the manufacture of fine, delicate instruments for dental purposes.

The question is often asked, "Why do we not have finer instruments than the mass of those that are in the market?" The answer is simply, the profession does not demand them. It is true that a few fine operators obtain the best instruments possible, regardless of cost. These are exceptions. The mass of dentists buy cheap instruments—perhaps for a cheap dentist that is the best course: but for him who desires to go forward, it is *not* the best method. The more an instrument costs the better, so it is correspondingly good. We would say to our professional brethren, refuse to purchase of the manufacturers or dealers any thing but the most perfect instruments possible. Simply let the second and third-rate instruments lie upon the shelves, and demand that better be produced, and it will be done. We have no hesitation in saying that all dental instruments could be made far better than they are; then let us have it so.

We shall speak of this again.

WHY NOT?

A BOOK FOR EVERY WOMAN.

The Prize Essay to which the American Medical Society awarded the Gold Medal for 1865.
By W. R. Storer, M. D., Boston.

This is a most excellent little work—well written. The subject upon which it treats is one of momentous importance to almost every woman; but most emphatically so to those guilty of the practices which it condemns.

The subject is handled in a most masterly manner, yet it is very apparent that the author used but a tithe of the material at his command, and doubtless the greater labor was to select rather than to find material for the work. It should be in the hands of every woman, that those guilty of the practices it condemns may reform, and that others may be warned never to enter such a course. Many, of course, entertain correct views upon this subject, who could not be induced to practice the vice here condemned. For such persons the work is not intended, except so far as it may aid them in correcting the evil in others.

The work should be published in the cheapest substantial form, and effort made for its largest possible distribution. This we understand to be the aim of the Association.

It is now put up in two forms, one a binding in fine cloth at $1, and in paper at 50 cents. It is for sale by Robert Clark & Co., Cincinnati.

NEW YORK COLLEGE OF DENTISTRY.

The first annual announcement of this institution is on our table, and also in the advertising pages of this Number.

If the plan of the organization is fully carried out, it will certainly be very efficient in the accomplishment of good for the profession.

The experience of others has doubtless been of some advantage in the organization of this school; for while they are small in the beginning, this professes to *start* at almost full growth. There is no objection to the size or strength of a new being, provided all the parts are of good structure and healthy; it is a very common impression, however, that exercise has something to do with permanent growth and strength.

We hail the establishment of this College as an epoch in the profession, and especially that part of it in New York and vicinity We have been of the opinion that an institution of this kind should have been established in that city long ago.

We hope and believe that a career of great usefulness and prosperity awaits this enterprise.

OBITUARY.

We have just received the painful intelligence of the death of Dr. J. L. Nourse, of Cloverport, Ky. Of the particulars we have learned nothing, except that his sickness was not of long duration.

This is a loss that will be felt by the whole profession, but especially by that part of it in that vicinity. Dr. N. was one of the growing men in the profession. He was at the meeting at Boston, in apparently as good health and spirits as any one.

We suppose a tribute to his memory will be made by some one who had been longer acquainted with him than we.

THE
DENTAL REGISTER.

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Original Communications.

DENTAL MATERIA MEDICA.

BY GEO. WATT.

SUBPHOSPHATE OF LIME.

Lime and phosphoric acid form more than one combination. Three equivalents of the acid united with four of the base constitute the salt under consideration. It was known to be a constituent of bones as early as 1769. To distinguish it from other phosphates of lime, and especially from the neutral, it is called *subphosphate*, or *bone-phosphate.*

This salt is the principal earthy ingredient of the bones of the vertebrate animals and of the shells of the crustaceous.

Preparation.—When bones are burned in open vessels, the animal matter is driven off, and what is known as the bone-ash remains. This is composed mainly of the subphosphate and carbonate of lime, the former greatly preponderating. The subphosphate often plays the part of a base—that is, it unites directly with acids, without undergoing decomposition. Not so with the carbonate, which is very readily decomposed. Hence, if bone-ash is digested with hydrochloric acid, the carbonate is decomposed, its carbonic acid being set free, while the chloride of calcium and water are formed, as indicated by the following equation:

$$CaO, CO_2 + HCL = CaCl + HO + CO_2 .$$

Chloride of calcium, being highly soluble, remains in solution. And, as the acid forms a soluble compound with the subphosphate, the result of the digestion is a complete solution of the bone-ash. Now, to precipitate the subphosphate, it is only necessary to give the acid something it likes better; and, as alkalies are the favorites with acids, ammonia may be used, and added to the solution as long as a white powder is precipitated. This powder is the subphosphate of lime, and may be washed with clean water, to remove traces of other salts.

This general direction would enable any one having the slightest acquaintance with chemistry to prepare the salt for himself; but as some of my readers may be more pharmaceutical than chemical, it may be well to give a definite formula:

Take of bones, burnt and pulverized, 1 part;
Hydrochloric acid, 2 parts;
Water, 2 parts.

Mix, and let stand twelve hours, and then filter the liquor. Then add aqua ammonia as long as a precipitate falls. Wash and dry the precipitate, which is the salt under consideration.

If any dentist sees fit to prepare the salt for himself, he will find the largest sized Hessian crucibles and his melting furnace all that he can desire for calcining the bones; and all else that is needed may be found in almost any dental establishment.

PROPERTIES.—This salt is a white, tasteless, inodorous, gritty powder, insoluble in water, but readily soluble in hydrochloric, acetic, lactic, and nitric acids. From its solutions in these acids, it is thrown down, unchanged, by solutions of the alkalies, or their carbonates. It melts at a very high heat, without decomposition or other change. It is surely not accidental that the basis of the solid framework of our bodies is composed of this *permanent*, almost indestructible salt.

Physiological Effects.—If I were simply to follow the authority of writers on materia medica, it would be enough to say, "Its effects are not very obvious;" and this or similar remarks are so frequent, that I am led to believe that authors have mostly copied each other, instead of giving their individual views as a result of experiment and observation. Nor does it appear to me that they bear in mind its chemical properties, even when they state them. For example, they object to its efficiency as a medicine, that it is nearly insoluble. Insoluble in what? Have they not just told us that it is highly soluble in nitric, hydrochloric, acetic, and lactic acids, and slightly so in solutions of chloride of sodium and carbonic acid? And, as a majority of these are at home in the human stomach, and none of them need be strangers there, what becomes of their objection?

That this salt is an important constituent in the bones, all know; but too many look upon the bony system as a matter of course, and, at the same time, fail to recognize the parts played by the phosphate in other tissues of the system. Its importance to the constitution may be inferred from a few observations.

Lehman (vol. 1, p. 374,) says: "We observe that softening of the bones occurs in those conditions when the animal organism does not receive a sufficient amount of phosphate of lime, or when certain physiological processes require an increased consumption of this salt, as in pregnancy, and during the dentition of children. We need hardly remark that rachitis frequently, if not always, occurs simultaneously with the period of dentition, that the consumption of phosphate of lime during pregnancy is often so great that scarcely any traces of it can be found in the urine; and that, during this period of woman's life, fractures unite with extreme difficulty, and sometimes do not unite at all. Chassat was able to induce softening of the bones artificially in animals, when he restricted them to food containing little or no phosphate of lime."

Again he says (page 375): "Phosphate of lime also occurs in many other parts of the animal body, although in far less quantity than in the bones; indeed, there is no animal tissue in whose ash or incineration we do not find phosphate of lime." On the same page he says: "Phosphate of lime is found in solution in all the animal fluids." *In solution!* Then it is dissolved by the system in some way.

The importance of this salt in the animal economy will farther appear from another quotation from the same author (page 376): "The constant occurrence of this salt in the histogenetic substances, and especially in the plastic fluids, as well as its deposition in many pathologically degenerated cells of the animal body, obviously strengthen the opinion that this substance plays an important part in the metamorphosis of the animal tissues, and especially in the formation and in the subsequent changes of animal cells."

In speaking of the phosphate, Wibmer says it "increases, incontestably, the presence of calcareous salts in the bones, the blood and the urine."

These quotations have been a little tedious, but they are important, and to the point. I know of no other medicinal agent so important, and yet so neglected. As all tissues are formed from cells, and as the phosphate plays an important part in the formation of cells, as well as in their subsequent changes, an abnormal diminution of it in the system must be attended with serious consequences, radical in their nature. And when there is a deficiency of the supply, what can be more natural than to increase the supply?

USES.—From what has been already said, the indications for the use of this substance may be inferred. In many cases of defective nutrition, it relieves like a charm. Relief is often so promptly gained that it is regarded as incidental. It is often objected that the texture of the bony tissues could not be so suddenly changed, as if only the bones are to be affected by the medicine. Its influence over the cell formation would lead the thoughtful to expect very prompt results.

The subphosphate may be profitably administered to children when the process of dentition is tedious and difficult. This remark will apply to second as well as to first dentition.

In well marked cases of defective nutrition, unaccompanied with positive signs of indigestion, its use will nearly always prove beneficial. And almost all American women will do themselves and their offspring a kindness by a free use of it during pregnancy and lactation. With fashionable diet, a woman can scarcely supply the waste of this salt for her own system. How, then, can she be expected to furnish a sufficient supply for a new creature, with such a wonderful growth as that from conception till the period of weaning?

In difficult and defective first dentition it is often advisable to supply both mother and child with the subphosphate, as this salt, in most cases, will be found deficient in quantity in the mother's milk. It would be easy to cite cases in confirmation of these principles, but space forbids. An extended and careful experience of more than twenty years gives me more and more confidence in their correctness.

ADMINISTRATION.—The subphosphate of lime should be regarded as a food, rather than as a medicine. Articles of food containing it abundantly should be used. Unbolted flour, cracked wheat, lean meat, fresh milk, cheese, etc., abound in it. As the pure salt is tasteless, it may be added to almost any kind of food, without in the least deteriorating any of its properties. I frequently give it to children with their bread and milk. It should be taken with the food, not on an empty stomach.

An adult may take twenty or thirty grains a day. To a babe I would give but five or six.

OBJECTIONS CONSIDERED.—1. "There is no use in giving this; for usually the fault is with the powers of assimilation."

The powers of assimilation can not assimilate any thing, unless it is present to be assimilated. They do not create. Besides, the subphosphate only needs to be taken into the system; it is already assimilated, that is, it is a chemical compound exactly as the system wants it for a chemical purpose.

2. "Its administration during pregnancy is dangerous, on account of excessive bony development of the fœtus."

This is more specious than real. The increased vitality of the mother far more than compensates. For easy childbirth, healthy women, not puny babes, are wanted. Mrs. **M.** used the subphosphate, by my advice, and gave birth to three boys in succession, weighing respectively 12½, 13 and 14 pounds, and had easier labors than previously with much smaller children.

3. "But this idea of 'chemical food' is a humbug."

Will the objector tell us of some kind of *food that is not chemical?* All physiological and pathological changes take place in obedience to the laws of chemistry.

Other objections, of minor importance, might be noticed; but let this much suffice.

FOOD AND THE TEETH.

BY DR. L. C. INGERSOLL, KEOKUK, IOWA.

Read before the Iowa State Dental Society.

THIS is the subject of an article, ably written, and published, several years since, in the medical journals of the country, and recently republished in our dental journals. The writer, in his very clear observations on the constituents of the food of children, as connected with the decay of the teeth, and the physical constitution of women in America, has justly made his theme one of paramount importance.

As it introduces facts and principles so important in dental science and so seldom considered by Dentists; I shall make it a basis of some general remarks.

First, let me premise, the gateway to this field of investigation has been quite blockaded by prejudice. Nor is this obstruction, by any means, yet wholly removed. How far the profession of medicine are responsible for this prejudice, it is not needful to determine. Among all reforms, the dietetic reforms has seemed to be the butt of ridicule; assuming at once, that *taste* alone, as an instinct of animal nature is a faithful minister to appetite, and that taste and appetite, acting harmoniously, need as little of human guidance in supporting nutrition as do the heart and lungs in their involuntary action. The study of medicine looking to pathological, has seemed to overlook physiological conditions, and to place health and hygiene without the pale of its immediate observation. The theory of medicine has led to the study of the incompatibility of pathological conditions, thereby to antidote disease with disease, forgetting that the natural antagonism of pathological conditions is a physiological condition, and that physiological action is a perpetual antidote to disease. It matters not how this prejudice has been imbibed, but it has been well nigh universal against any effort to accomplish permanent hygienic results by prescribing courses of diet. Medicine has been the God of Medical science, and worshipped by all the people. There has, however, crept in, of late years, through the channel of medical and dietetic reforms, a wholesome measure of infidelity concerning this worship. Now, the more natural ways of producing physiological results are looked upon with favor. Chemical compounds are reduced, and decoctions are strengthened with medical advice.

Dr. Sylvester Graham, who thirty years ago was only laughed at, has gained esculapian honors, and his name has been rendered immortal by giving to the world the staff of life, inscribed with his own name, "Graham bread."

If the fact which science has established, shall be made plainly evident to us all, that Graham bread contains more of the constituent elements of bone and dentine than any other article of daily consumption, we, as dentists, will have occasion to ascribe to Sylvester Graham greater honors than we claim for ourselves, because he offers to mankind the ounce of prevention, while we offer the pound of cure.

The subject of the relations of food to the teeth is one which needs a thorough canvassing, and a consideration and elucidation which I am at present unable to give. Topics bordering upon it have been investigated and discussed at length; and the discussions have verged so closely upon the facts which contained the real issue, that the greater is the wonder that the kernel was not reached after such a cracking of the shell.

These two questions compass the whole subject:

First.—Does food sustain such a relation to the teeth that diet has a controlling influence in their organization, causing the teeth to be well or poorly organized as one or another kind or class of articles of food is taken for nourishment?

Second.—Does food sustain such a relation to the teeth that in case they are developed in a frail and poorly organized condition, they may, when the cause ceases, by a proper course of diet, be so changed in their elemental composition as to render them less subject to caries—thus counteracting wholly, or in great part, the early tendency to decay?

In order not to complicate the question needlessly, it must be assumed that the functions of nature act their part in a normal manner.

Again and again have we turned back to hereditary causes—to functional derangements of the parent transmitted to the child. Here we found facts so abundant as to seem at first view, to settle fully the question of dental organs in ruin. We contentedly fall back upon an idiosyncrasy. Back of all this, however, there is a cause of this so called idiosyncrasy. The human body is not a machine which when made and put in motion needs no further re-making. It is a machine of functional powers, which, in their action, are continually reproducing the whole and all its parts specifically. This body, originally made of the "dust of the earth," is still made of *dust*. Especially significant is this language in reference to the elemental structure of the bony framework of the human system.

That very comprehensive term, *nutritive*, names the whole class of functional powers by which this perpetual reconstruction of bone-dentine, cartilage, nerve-tendon, membrane, muscle, and every other part of the human body, is accomplished. Yet, in the general use of this term, the bony structures, especially the teeth, are left almost entirely out of the account. This is evident, first, from the division so generally made of nutritive elements into *nitrogenous*, and *non-nitrogenous*—flesh-producing and fat-producing. It is evident, again, from the analyses so often given of various articles of food, in which the definite proportions of sugar, starch, gluten, caseine, etc., are given, and account is taken of their value for the nutrition of the soft parts, while scarcely mention is made of the mineral elements contained in these various articles of food, which serve to build up the framework of the human body, for a support to all the soft tissues composing the organic structure of more vital parts.

So far as the teaching of most writers on this subject, whom I have read, goes, the human body might be but a mass of animal jelly; for mineral elements are seldom, if ever, mentioned in connection with nutrition. While the bony structure is not wholly ignored as a substantial part of the human body, the method of its existence, growth and development is seldom brought to our notice. Writers seem to assume its existence as a framework of the human body, put together bone to bone, as an architectural gardner frames and sets up an arbor in his grounds, and that the flesh duly nourished, comes upon the bones, just as plants and vines cover the frame-work of an arbor, by successive years of nourishment and growth. But let us not forget that skeleton bodies, unlike a skeleton arbor, grow by the assimilation of food, as do the soft parts—that a human skeleton is a living thing, tooth and bone—and needs nourishment to support its life.

Suffer me now to go back a little and modify my previous statement. The mineral elements of human growth have not been *entirely* ignored. For, under certain circumstances, the demand has been acknowledged. The claim of the bony structure for mineral has been looked upon as an occasional, rather than as a perpetual necessity to supply a perpetual waste.

About the year 1856, the Materia Medica was supplied with a new article called "Chemical Food," which was chiefly a solution of phosphates, to be taken into the stomach as food for the bones.

Von Pleufer, the most renowned physician of Munich, induced the apothecaries of his city to keep for sale, a soup largely impregnated with bicarbonate of potash. Others have suggested lime-water, soda-water, ash-water, besides various mineral spring waters. hoping to derive from one, or all of them, the solid earthy elements of human bone, including the teeth.

So far as these simple elements and chemical compounds are designed for infants, deprived, for any cause, of natures provision for their nutriment—the mother's milk—at that early age, when milk is the *only* suitable nourishment they are a suggestion of thoughtful wisdom. Though it must be borne in mind that the best *substitute* is but a poor imitation of human milk, which is nature's only perfect food.

But I must be allowed to say that, so far as these mineral solutions and compounds are proposed for supplying the embryo child through the maternal organism, or for meeting the demands of children or adults after the development of the teeth, the proposition indicates a misconception of, *not* nature's demands, but of nature's provision for supplying these demands, by the use of natural food, organically combining the constituent elements of growth. A consistent application of the theory of chemical food might require that all food be reduced chemically to its constituent elements, and an artificial mode instituted for producing flesh and bone, while the assimulative functions should lie dormant.

What, let me ask, is the physiological indication of the early development of the teeth? I answer, the indication is, that the infant organism is, at that period, ready for the reception of more solid food than milk; that henceforward, from solid substances are to be derived a large proportion of the elements of nutrition. Here we arrive at a fact which must never be lost sight of in the consideration of the subject of nutrition,—namely, that from a vast variety of natural productions designed by Providence—not by the chemist—for human food, man must derive *every element* of nutriment for the body—the whole body—for the bone and dentine as well as for muscle and fat.

When men talk of nutrition and growth, how often does it appear, from the language used, that only the production of flesh and fat is intended! In an ably written article in the last report of the Commissioner of Agriculture, the writer, in comparing various articles of food adapted both to man and to domestic animals, says:—"If one plant produces thirty per cent. more than another of flesh-producing or fat-producing—nitrogenous or non-nitrogenous substance, it is manifest that the one richest in fat-producing or flesh-producing, should be selected." "Peas and beans, and other leguminous plants," he says, "derive their superior nutritive value from the large proportion of nitrogenous, or flesh-producing material which they contain." He makes no mention of the large proportion of lime which these contain. Why are beans so valuable an article of food for the sheep ? I answer, because they nourish so well the firm, horny fiber of his fleece, as well as his body. And why does the sheep thrive best on rocky soil, and seek the shortest pasture, but that such soil and such pasture is richest in silicic, phosphoric, carbonic, and sulphuric acids, holding in solution the mineral portion of the soil, out of which is this growth of turf? Reports tell us of sheep thriving in flocks of thousands, on the sand-barrens of Australia, licking the dust beneath their feet, where but a trace of dried vegetable substance can be seen.

Turn to a swine, who considers it his "sole duty to grow fat," and ask for his choice of food, and he will cry *corn* every time, because that is richest of all grains in the non-nitrogenous, fat-producing substances. In selecting a swine to feed for home consumption, you do not search for a large-boned animal, but rather for one small and slender boned, with a frame-work only sufficient to support the adipose matter with which you intend he shall be abundantly clothed. Flesh and fat are all you wish to grow. But when you are looking for a horse having strength, vigor and endurance, you look for a well developed, bony structure, as well as for a firm, compact muscle. Corn-fed colts are wanting here; and, when over-grained, they will greedily gnaw the fences and bark of trees for a supply of mineral, and will turn with loathing from rich food to the ground and lick the dust from the street. Physiological science is interested to reduce to a practical principle the adage, "every man must eat his peck of dirt;" and the application is common both to men and animals.

The writer last quoted makes another statement concerning the relative values of wheat, oats and barley. He says that the latter two are less valuable than wheat, because they contain less gluten, and more starch, as though these were the only important elements for the growth of the body. Look at the sturdy Scotchman living upon his barley-bread and oat-meal porridge, and you see a denial of this statement in his wiry muscle and compact frame.

I wish now, with the foregoing remarks before us, to come directly to the point, that the *teeth* grow by nourishment as do other parts of the body, that the nutrient elements for both the soft and the solid parts of the human body are found in the food that God has adapted to the physical nature of man—that for the purpose of supplying the demand for the daily nutrition of every part, vegetable and animal substances designed for food are possessed in due proportion of the ultimate elements of a well organized human body—that there is no demand for *chemical food* but for *natural food* in a complete organization of bone and dentine.

These varied propositions contain my views of the method of developing and continuing a perfect organization of human teeth.

To make the subject more clear let me refer you to the laboratory of the human body, the stomach and the alimentary canal. Into the stomach, food in the crude mass, is received. Here it is reduced to a pulpy consistency, its elements put in solution for a thorough chemical analysis while passing the long and devious line of the intestinal tube. The multitude of absorbants, with most persistent eagerness, and with a kind of elective affinity unknown to human science, take up the atomic elements of bone, dentine, muscle, fat, according to their specific functions, and with these elemental parts of every part near and remote, freight the arterial system, which, like canals and rivers running every whither deposit their material for growth, or for repairing organic or inorganic waste.

The fact of a perpetual waste of elemental particles, and a corresponding supply of the waste, is, in some particulars, plainly evident. We see, for example, the hair and nails cut off, and the whole renewed as before. We see the waste of the cuticle perpetually supplied. We see abrasions of the skin, and deeper wounds, in a few days or weeks, thoroughly repaired. These facts serve to illustrate and declare the principle. Nor is it wholly inferential from these data that the same economy of nature obtains throughout the system.

If there be such waste (and it is estimated that in about seven years, more or less, the whole body has gone through with a change of its elemental parts) then it is evident that there must be a corresponding supply, by the nutritive functions of this complete waste.

The fact that elements which enter in as component parts of, or are mixed with food, enter into the bony structure, is proved by experiment. A pig, previous to being killed, had all his food colored with madder. After killing, the bones of the animal were distinctly seen to be colored red. The teeth were not included in the examination which was made.

While this theory of waste and supply is believed, concerning the soft parts, it is not so readily accepted concerning the dentine.

If it can be established concerning the dental organs, we have arrived at *the* all important fact in determining the method of securing and perpetuating a healthy and enduring organization of the teeth.

I shall not be foolish enough to think that I can demonstrate this so fully to your comprehension as to admit of no doubt; although I believe the proposition. The most I can do is to suggest some trains of argument which, if they could be accompanied with proper research, and experiment would carry, to most minds, so full a probability of fact, as to induce an almost willingness to close the argument with those initial letters, which so often conclude the solutions of mathematical problems, *Q. E. D.*, *quod erat demonstrandum.*

First, I reason from analogy: If the system of waste and supply pertains to the fluids of the body; to the semifluids and adipose matter; to the membranous and fibrous portions; to tendons, cartilage, hair and nails, the natural inference is that waste and nutrition pertain as a principle of life and growth, to the yet firmer structures, bone and dentine.

Again, the nutritive function is vitalized with the life force, as truly as is any other bodily function; and we have no reason to suppose that it loses this vital force, at any point in the system, or that its functional power ceases anywhere sooner than any other vitalized function. That by the action of the nutritive system, the bones and the teeth come to a maturity corresponding to the growth and maturity of other parts of the body, all agree. Having now brought to maturity the dental organs, does the nutritive function by which they were produced cease its power and existence? Is this nature's mode of completing her work? Such a cessation of function would be death. The continued existence of the nutritive function after bodily maturity and the necessary exercise of the function is admitted as concerns the soft parts. What reason, then, to suppose the cessation of the nutritive function as regards the teeth, after their maturity? Again, Philosophy teaches that the existence of anything presupposes a purpose in its existence, and a use in its relation to other things. If dentine were a dense impermeable solid, like diamond, we should be compelled to arrive at conclusions which would accord with its nature. But when we find it of a tubular structure—the tubules diverging from a longitudinal central cavity into which they open, and when we find this central cavity occupied by a vascular, sensitive organ, which we call the pulp, the earliest moment of our discovery prompts the inquiry, what office have these dentinal tubes to perform in relation to this central organ? Their existence, and their tubular structure indicate *some* related function. With microscopic eyes we see more closely the organization, and discover a lining membrane, and a circulating fluid in each tubule. This identifies the relationship to the vitalized central power. Tell me now the office work and functional powers of the dental pulp, and I will tell you the functional powers of these related organs. If you answer, *life* and *nutrition*, I answer *life* and *nutrition*. Life and nutrition are correlative terms. Life makes nutrition a necessity; and nutrition presupposes life. We must conclude, therefore, that the dentine is possessed of a living, nutritive power. But nutrition implies a waste of dentine, corresponding exactly in amount with the nutritive element supplied. In this action of the nutritive principle we have all we can ask in securing a firm dental structure. In accomplishing it, with an ordinarily healthy tone of bodily functions, we have but to select such articles of animal and vegetable food as contain a due proportion of the mineral elements of which the teeth are chiefly composed. Thus they will be built up, thoroughly dentified and enameled, to endure till the organic nature, to which they minister, shall no longer need the mastication of food in the support of life.

Proceedings of Societies.

DISCUSSIONS OF MISSISSIPPI VALLEY DENTAL ASSOCIATION.

Held February 21, 22, and 23, 1866.

REPORTED BY DR. C. W. SPALDING.

Dental Materia Medica.

Prof. Geo. Watt, of Xenia, Ohio, opened the discussion. He stated that he had recently written on this subject, having commenced a series of articles for the "Dental Register," in which he proposed to treat of it at considerable length. In examining the subject let us first define the term Dental Materia Medica. We employ this term as denoting a specialty of medical science—a science which draws upon all the kingdoms of nature for substances capable of modifying the laws of life. Premising that there is but one system of medicine—that there is room for only one, as there is for but one God—it becomes our duty to try to discover and determine that system and apply it to our practice.

Dental materia medica would therefore have relation to those substances which exert an influence on diseases of the dental organs, and on those of the other organs and tissues of the mouth. In a legitimate sense, the scope is much wider than is generally supposed. Many fine operators who consider it their duty to treat all cases of disease originating in the mouth, would think they were going beyond the limits of their specialty in prescribing for diseases which do not *originate* in that cavity, although they may exist there. If the general practitioner prescribes for such cases, they belong none the less to dental surgery; and the dentist will probably find that he is not alone in being at a loss how to treat these cases successfully Young dentists should certainly prepare themselves to treat all such diseases. Ample opportunity is afforded them for obtaining a thorough dental education; and they should not be excused if they neglect to avail themselves of it.

There is no necessity for drawing so nice a line between dentistry and medicine as some do. Dentistry is a branch of medicine; and if the dentist knows what to do in any particular case just as well as the physician, I don't see why he should not do it, provided he all the time adheres to *dental* materia medica. I have not entered into the discussion of the *modus operandi* or specific action of any particular drug, but trust this will be done before this subject is disposed of. Some of us are more familiar with the action of one particular remedy, and others of another. I hope each one will speak of such as he is most familiar with.

Dr. McCullum, of Kentucky, said that his success in the treatment of diseased and receding gums had not been very satisfactory. He had used creosote and iodine, as recommended by Dr. W. A. Pease, of Dayton, Ohio.

Prof. J. Taft said that formerly manipulative dentistry was considered the important thing in dental practice. Filling teeth and making artificial substitutes had been looked upon as the all of dental art and science; while the knowledge of the causes and treatment of diseases was a matter that had been almost wholly neglected. A man who confines himself wholly to the mere manipulative arts of dentistry is not much elevated above a watch-maker, or other skillful mechanic. He was happy, however, to bear testimony to the existence of an advanced state of professional attainment among the better class of practitioners. With this class, the best means of preventing, and the most successful methods of treating disease were now considered of the very first importance.

Such minds were constantly on the stretch to obtain information on these important points. They study to discover how the dental organs can best be preserved and maintained in a state of complete and perfect health. They seek to prevent the occurrence of disease rather than to confine themselves to combatting it after it has become established. The practitioner of medicine often fails to recognize the sympathy existing between teeth that are diseased and certain systemic conditions; he makes little or no effort to arrest the progress of decay or to prevent absorption of the gums. These examples are mentioned to show that the physician does not regard these things as properly belonging to his department. They therefore must receive the attention and care of the dentist.

Now, medicines are either local or general in their action; and the dentist should thoroughly understand the nature and effects of every remedy he employs. He should clearly see the diseased condition which he proposes to change or modify, should perceive how it may be changed, and what remedy will best produce the desired effect. All this should be clear in his mind, otherwise it is empiricism.

Dental materia medica is a subject that is not yet well understood. Some know but little, while few know all about it. Still, every one should so well understand the action of the remedies in more common use as to know what effects they will produce in any given case. Let us take, for example, tannin, or creosote. A few years ago, a knowledge of the therapeutic action of these drugs was considered almost unattainable. Now they are well understood, even by students. Comparisons like this serve as landmarks to show the progress we are making.

Dr. W. W. Allport, of Chicago—We hear a great deal said about giving remedies to produce certain effects; but we have no illustrations of the manner in which these remedies act. What is the *modus operandi*, the therapeutic law according to which any given remedy produces its effects? We know the cause, and we can see its effects; but we cannot trace the connection between them. Why, for instance, will creosote and iodine cause the restoration of the gums and the alveolar processes? Should like to hear this matter discussed.

Dr. Taft—Has endeavored to ascertain facts and draw legitimate deductions, and in this way arrive at a proper conclusion on this subject. It is always desirable before introducing therapeutic treatment to ascertain as nearly as possible the true condition, and also the cause of that condition. There is an infinite variety of pathological states; these are modified by previous physiological conditions, and by different causes.

All are aware of the fact that in the absence of vigorous physiological action, exciting causes produce greater results. Oftentimes apparently very slight local causes will produce great disturbance. Sometimes a totally foreign body will remain in the tissues with impunity; while in others the same substance will produce the most serious results. In some cases even a vitiated secretion serves as an active irritant. There is not only a very great diversity in the manner in which different constitutions will tolerate the presence of offensive agents, but almost if not quite as great a difference in the ability to dispose of or remove such agents. In one case a little spiculæ of bone will occasion severe and extensive disease; while in another case, sentinels will seem to be placed about it that will so hedge it in that it is perfectly harmless; while in still other cases it is speedily dissolved and removed.

All these things and many others should be well understood before coming to a full decision as to what should be done in the way of treatment.

The ordinary diseases of the teeth are well understood, both in nature and cause, by the thorough dental student. The local causes are more readily apprehended than the remote, and may be understood to some extent where there is but circumscribed knowledge. But to take in and fully understand the nature and influence of remote causes, involves the widest range of physiological and pathological knowledge.

In treating diseased tissue, organ, or body, the first thing in order to be accomplished is to remove or neutralize the injurious agent. This is sometimes done by mechanical means—a surgical operation; or by medicinal agency, by the administration of those things that will attack the enemy directly, or will rouse the powers of nature to such a point that the foe will be literally driven out.

The principles here hinted at must be well understood before we can intelligently apply therapeutic agents. We may understand most fully the nature of the agents, but unless its action on living tissue is understood, the administration will be empirical and uncertain.

Dr. Allport asks, What would you give to correct the constitutional condition which causes the secretions to become acrid, and *why* would you give it?

Dr. Watt replies: Would give iodide of potassium, and would use it because it is a really good thing. It is composed of one equivalent of iodine and one of potassium. These substances have affinities for each other, but they also easily separate in obedience to other affinities, and enter into combination with other substances. They would not readily reach the capillaries separately, because they have such strong affinities for other substances which they would encounter on the way. But in combination they help each other along (the compound being nearly inert locally) until the capillaries are reached, when they are separated, and each is then left free to form new combinations, and to exert its own chemical powers—potassa, by dissolving these abnormal tissues, or rather the materials of which they are composed; while iodine, having affinity for other substances, decomposes certain tissues, by taking away one of the parts of which they are composed, and thus changes their character. This latter, also, by its stimulating properties, increases the action of the absorbents. All medicines act chemically, and in that way only. The body is itself a chemical laboratory. All eliminations and excretions are conducted on chemical principles. Suppose a case of tertiary syphilis.

This is a disease of the bone-forming process itself. We know that bones are all the time changing—constantly dying and being renewed. Neither syphilis nor scrofula change the condition of bone material already formed—they affect the manner in which the process of renewal is carried on. Potassium unites with oxygen and forms potassa. This solvent holds other deleterious substances in solution, till they are passed off through the kidneys and by perspiration. Thus is brought about what we call an alterative action on the system.

In syphilis, we will suppose that the tertiary state is not yet reached, but the processes are wasting away. Here iodide of potassium is just as applicable as in the former case, readily correcting the abnormal action of the tissues, and thus arresting the progress of the disease. To illustrate: Chlorine acts on gold only when in contact with it in its nascent condition. So potassa and iodine, resulting from the decomposition of iodide of potassium, their nascent condition, combines with these substances or poisons, and they are carried out of the system, while in this state of solution, by means of the excretory fluids.

The local action of iodine and creosote, when applied to the gums and alveolar processes, is that of an escharotic. This is also a chemical process; these substances uniting, by chemical affinity, with the poisoned tissues, a slough is formed, when nature sets up increased action below in her efforts to effect a restoration.

In answer to a question, Dr. Watt stated that he preferred small doses to large ones; usually prescribed three grains of iodide of potassium three times a day, increasing the dose, if necessary, to ten grains. The first indications of the constitutional effects of this remedy are pallor of the face and a slight disturbance of the appetite. Soon after the appearance of these symptoms, some improvement was generally observed.

Dr. Allport remarked that he had derived more information from this discussion than he had ever before received on any one subject in the same length of time.

Adjourned till to-morrow.

Remaining discussions reported by Dr. C. M. WRIGHT.—*Ed.*

It was with great reluctance that I complied with the request of the society in making the attempt to report the doings and sayings of members, at this meeting; and it is with greater unwillingness of mind that I sit down to the task of arranging my imperfect notes for the printer and the "reading dentist." My dislike is not because I am not as anxious as any, that the many wise and useful remarks, the interesting and instructive discussions of the society should be recorded and made common property, but that necessarily so much must be lost, and all the balance so imperfectly reported by my inexperienced hands. Like a wrecker, however, when a noble ship has been dashed to pieces on the shore, I have made a desperate effort to save a few of the valuables; and though they will be presented in a somewhat damaged condition, I hope they will be acceptable. If, in the following report, any member is made to appear dull or uninteresting, or if I have put anything in his mouth with my pen, that he thinks his tongue never uttered; or again, if he has been very imperfectly reported, or entirely neglected, when he expected much more,—if he fails to make the brilliant *hit* in this report, that he thinks he did in his speech, that member is at perfect liberty to cry out against the reporter—to accuse him of stupidity, ignorance, or inability to perform what he has attempted, but not of malice aforethought. If this is not satisfactory—if the wound be not so easily healed—the aggrieved member may lay the charge at the doors of those who nominated and insisted that I should take the reporter's pen. If I may be allowed to suggest, the very best way of correcting all mistakes, making clear all dullness, sharpening and bringing out in all their original brilliancy the good points that do not appear in this report, would be, for the member to take up the pen himself, and arrange and present his remarks and opinions, in the form of an essay or *paper*, to the publisher of the *Register*. By thus doing, he would clear the conscience of the reporter of a great responsibility, and, at the same time, contribute to one of the most important and popular means of professional education, viz: Dental Periodical Literature.—*Reporter*.

Thursday, P. M., Feb. 22, 1866.

Before commencing the discussion of the appointed subject, the society unanimously requested Dr. McKellops, of St. Louis, to exhibit some models and specimens which he had brought from Europe, as a present from Dr. Preterre, of Paris, to the Ohio Dental College. Dr. McKellops kindly consented, and exhibited a number of handsome and correct models of cases of congenital cleft palate, and other malformations of the mouth and adjacent parts, and the ingenious appliances to obviate the difficulties. Each case was described, and clearly explained by Dr. McK.; and the eagerness of all the members to see and hear, expressed forcibly the interest with which they regard this most important and interesting subject. An ingenious piece of mechanism for correcting irregularities of the teeth was also exhibited and explained. It consisted of a vulcanized rubber plate with metallic attachments, by which the teeth could be moved in almost every way desired. Dr. McK. also exhibited a number of root forceps, of shapes new and suggestive to Americans. We regret exceedingly that we cannot, in our report bring Dr. McKellops, and the models he exhibited bodily before you, and detain him here until all could taste the fruits he gathered during his late tour in Europe; as he is in no way selfish about them, but gives freely what has evidently cost him much labor and study, not to mention money. The appreciation and thanks of the society can be but feebly expressed in words, though resolutions to this effect were passed. If all would imitate the generosity toward his professional brothers that Dr. McK. has shown, such rebukes as the gentleman gave to the course of a distinguished American Dentist, would not often be necessary. We are sorry we cannot report the remarks of Dr. McKellops, but without the models to illustrate, it would be unsatisfactory.

Dr. Harroun, of Toledo, explained his ingenious method of obtaining the impressions of mouths for the construction of artificial palatine obturators. The method can be better demonstrated than described in a report; and those who were not fortunate enough to be present must content themselves for the present, with the blissful state of ignorance *of the "proceedings of this society"* on the subject of cleft palates.

The subject of Materia Medica was again introduced for discussion as it had not been near exhausted in the morning.

Dr. J. Taft said he would like to hear the opinions of members about the modus operandi of the mercurials. The knowledge of the mode of action of mercury, in its various forms does not seem satisfactory in our own or even the Medical profession. The opinions extant on this subject appear crude and undeveloped, and he should like to have them made clearer and more generally understood. He wanted to know the whys and wherefores of the use of the mercurials, and how—*exactly* how, they act in the human system. Does, for instance, iodide of mercury, act in any way like iodide of potassium, or, as it was explained and described this morning. If it does not, he wanted to know just how it does act. He considered this as important a matter as any to our profession, and believed we could not be more profitably or practicably employed than in investigating such subjects.

Dr. Watt does not think iodide of mercury acts like iodide of potassium. Does not know that he can explain exactly how it does act. Sometimes the properties of the blood are inclined to be too adhesive, as in Pneumonia, or other diseases where there is a condition of mucus engorgement, and a tendency of the blood to fill up the tissues as by adhesion. When the blood is in this condition, this adhesive quality can be overcome by mercurials. Mercury is, perhaps, not favorable to the formation of new material in the system. In regard to the local action of mercury, he does not believe the popular idea to be true, that the teeth are corroded by its use—that it has a direct deleterious action on the teeth. Frequently after mercury has been used, the system may be in what might be called an acid condition. This condition is affected by the circumstances of the disease, of climate, of temperament, etc.; but the secretions about the teeth are acid, and the acid acts upon the teeth. But sometimes following the use of mercury, an alkaline condition is present, and the alkaline secretions affect injuriously the gums and mucous membrane. These conditions of the secretions follow the use of mercury, modified by many circumstances; and the teeth are as variously affected. The mercury itself is not the *direct* agent that causes the decay of the teeth.

Dr. Spalding was glad the action of medicines upon the teeth had been mentioned. He once believed that medicines would not affect the condition of the teeth after they were perfectly developed; but a few years ago he had a patient—a young lady—whose teeth were of good character, firm and strong. This lady had a spell of sickness—a lingering illness. Immediately after her recovery he examined her teeth and was surprised to find them friable and brittle, and changed entirely in quality of texture. Both the enamel and dentine were affected, and presented the same friable condition. With but little exertion, he could chip away the tooth with an excavator. He declined to operate for her at that time, and prescribed an acid, for medicine. As it was strawberry season, he told her to eat them freely, using sugar, believing that the acid of the Strawberry would accomplish the result;

and it would be an agreeable way of taking medicine. After a few months, he again examined her teeth, and found them restored to their original good texture. Since that time he has believed that medicines, by certain chemical properties and changes, do have effect upon the character of the teeth, even after they are perfectly formed in adult mouths. In their systemic action, the character of the secretions are changed, and, by being taken into the circulation and uniting with certain properties or qualities of the blood, ar thrown out into the tissues. This patient had taken potassa, till the stomach had rejected it. The teeth had been changed by the alkaline action. The acid of the strawberry restored them. He had, therefore, based his theory upon fact, and wished to know upon what safer hypothesis he might build.

Dr. Cheesbrough had had a case very similar to the one mentioned by Dr. Spalding, and would like to know the *rationale* of the acid in strawberries, in such cases.

Dr. Spalding could not, in the case mentioned, tell exactly the *rationale*—he could only state the phenomena, and the facts; but in the operations of medicines in the system, there is another and a higher principle involved than the merely chemical. It is the dynamic—the vital principle. Chemistry cannot account for all the operations of medicine. A medicine does not act on a dead body as it does on the living. Life is required to account for the action of medicines in many cases. Vitality is as important in the operations of medicines as chemical affinities. To the dynamic principles as well as to the chemical, are we indebted for the curative properties of medicine. Chemical affinity is owing, in part, to this life principle, and can be accounted for in no other way. Mercury, for instance, seems to have a specific action —a tendency toward the osseous structure of the body, and is it not on account of an affinity of life qualities ? A medicine may lose its power, or its life, and become a dead medicine. It may act then, perhaps, as the ghost of the medicine, on the ghost of a lost or dead member of the body. (?) Does not wish to insist upon the latter idea.—[Laughter.]

Dr. Allport cannot agree with the deductions of Dr. S., in regard to the case mentioned, of the young lady who ate strawberries. Thinks it probable that the alkaline administered injured the teeth, by affecting the animal portions of the bone, but should think the administration of acid would only complete the ruin, by breaking down and destroying the mineral portion of the teeth.

Dr. Watt said he did not understand a man when he talked about the dynamic forces of medicines. He believes only in the doctrine of chemical action. If the spirit—and he wished to be understood that he was as "spirituous" as any one need be—acts on the body, it must employ chemical means to do it. The devil himself, can seduce man only by causing chemical changes to take place in the human system; and only by the aid of chemistry can he do anything with man. In regard to the case mentioned by Dr. S., he said, any wasting disease may and does cause the conditions of the teeth described. In these diseases the nutritive functions do not work properly—they do not supply the quantity, or quality, necessary for the proper support of the body, or of the teeth. In consumption, in low typhus fevers, and in other debilitating diseases, the condition of the blood is changed, and all the bones in common with the rest of the body, fail because not properly nourished. He seldom operates for persons after a long and debilitating sickness has produced this diseased brittle condition of the teeth, till the *nutritive functions* have had time to correct the evil. When an alkaline condition of the blood and secretions is present, an acid given acts chemically, by neutralizing the alkalies in the blood, &c. To correct an acid state of the secretions, etc., which can easily be discovered by the use of litmus paper, in the mouth, from the saliva, or by the perspiration, he prescribes acetate of potash in doses of two or three grains.

Some discussion ensued here between Drs. Watt and Spalding in regard to the systems of medicine. Dr. Watt insisted that there was room for but *one system* of medicine, as there is for but one God in the universe. If there is room for two or more systems of medicine, then there may be room for two or more Gods, which he could not believe. For the science of Medicine has human nature as its basis, and claims all created things as its implements.

Dr. Spalding declared that while we, as scientific men, are searching for truth, and while medicine like every other science, has not arrived at a perfect state, and our knowledge of it is not infallible, we can not, with justice, claim any one as the only system, nor can we claim but one—the system of medicine. When we are perfect in our knowledge, and all consent that a conclusion has been arrived at, there may be but one system; but such is not the case to-day; nor is it likely to be for some time to come. While men of equal knowledge, equal scientific attainments, equal powers of judgement, differ on a question, it is not always the wisest plan to assert that there is room for but our, or one of the opinions.

Some further discussion on the same subject followed, Dr. McCullum said he did not expect to settle, forever, the agitated question, in the minds of all. He did not believe that, when he sat down, all would agree, and that nothing hereafter could be said on this subject of the chemical and dynamic forces, but he wished to say, clearly and conscisely, what he meant by these forces: By the chemical, the medicine acts on the system; by the dynamic, the system acts on the medicine.

Dr. Ulery here begged leave to introduce Mr. Hull, the inventor of a new blow-pipe. The machine was exhibited. It consists of a reservoir of japanned tin, which was filled about one third full of benzine, and into which air was forced by a pump. The generated gas was ignited at the end of a tube, about six or eight inches from the reservoir, and connected with it near the top. The flame could be regulated, and the heat from this would cook, roast, etc. Proceeding from this in a straight line, a small blow-pipe was attached; and quite a furious blast was forced out, which would solder for the dentist, when a small alcoholic flame was held near its mouth. The force of the blast could be regulated by screws or cocks. The society seemed very much interested in the machine; and Dr. Ulery and Mr. Hull were thanked for bringing it before them.

Thursday Evening, Feb. 22.

Quite an interesting, and even exciting debate on the mode of operation of arsenious acid in the teeth, occurred during the early part of this evening's session, which, we are sorry to say, must be lost to the readers of the *Register*, unless some member present at the time will present a report of it. Your reporter was unavoidably absent; but with your consent will take up the pen at the moment he entered the room, and begin the discussion with

Dr. Morgan, who in speaking of arsenic in dental practice, said he had learned from his experience, that in young persons, when the blood circulates rapidly the arsenic operates much more readily and rapidly. In many such cases, but thirty minutes are required to destroy the vitality of the pulp. In adults, also, where the pulse beats rapidly, a much shorter time is necessary for this medicine to accomplish its object than is usually prescribed.

Dr. H. A. Smith applies arsenious acid to devitalize the pulp, and generally requests his patients to return in from eight to twenty-four hours, but he has never had trouble with a case when the application, owing to the carelessness of the patient, has remained for several weeks in the tooth. There is certainly a very great variety of opinions in the profession, in regard to a medicine so universally employed as arsenious acid. The *authorities*, as well as those who do not presume to be authorities, differ widely in regard to the *modus ope-*

randi, and the time necessary for the complete devitalization of the pulps.

Dr. Berry, in his early practice used to apply arsenic to obtund the sensibility of dentine when the pulp was not exposed, but believes that, in forty-nine of fifty cases, where this practice is pursued in young patients of strumous habit, the pulp is devitalized.

Dr. Talbert has, for some time, used a paste made of arsenic and morphia, in about equal parts, and ground well together. Thinks the narcotic prevents or deadens the pain that so frequently follows the application of the mineral agent. Occasionally he used a very small quantity of this paste to destroy sensibility in the dentine. In this case, he applies it but for a very short time. Thinks that different cases require different quantities for the destruction of the life of the pulps. Temperament, texture of the teeth, &c., are circumstances which modify the action of this medicine. Stated a case where the alveolar process was affected by the arsenical application in the tooth.

Dr. Shadoan spoke of the porosity of tooth bone, which may be the cause of its sensibility in many instances, and insisted that arsenious acid—and all that class of compounds—is taken up by absorption, and produce devitalization of the pulp, even when a layer of dentine intervenes. He believes in the theory of the absorption of arsenic by the tubuli of the dentine, and asked if periostitis was not caused by arsenic being absorbed.

Dr. Taft agreed that the arsenious acid being absorbed by the pulp, &c., is the cause of the periostitis that so frequently follows the application. Authorities may differ on these points, they are at liberty to do so; but he contended that we are as capable of judging aright, and forming correct conclusions as any, on the operations of this agent. Temperament, and other conditions or circumstances, affect the action of this, as of almost every other medicine. Replied to a question that dead tissue, like a piece of wood or sponge, can absorb, and that there is no necessity for a tooth to be possessed of vitality to allow the transmission of arsenic.

Dr. H. A. Smith denies that there is any circulation in dead matter, and declines believing the correctness of the theory that arsenic is carried through the tooth, either by capillary or any other attraction. Does not regard it essential to subscribe to the doctrine of the absorption of arsenic, by the pulp or tubuli of the tooth, to account for the periostitis that frequently follows the destruction of the life in the pulp cavity. The devitalized pulp itself might cause an irritation which would produce periostitis. The destruction of blood vessels might so affect the circulation that, for a time, an abnormal condition would be present, and periostitis result. He could see no imperative necessity for hastily adopting the doctrine of absorption.

Dr. Watt. The arsenic combines chemically with the albuminous matter of the dentine; and an arsenate is formed, which fills up, or causes to be filled, the tubuli of the dentine. Decomposition takes place, layer or stratum at a time, perhaps, and this decomposition may proceed for months, even after the cavity has been duly filled. Death of the pulp may then result. Periostitis may occur, however, from the destruction of the contents of the pulp cavity from any cause. The normal circulation of blood is destroyed, and until nature has had time to provide a way to correct or regulate the results of the obstruction, periostitis may be the consequence. The artery that carries blood to the apex of the root, has been cut off, and irritation is produced for the time. He intends to try to clear his mind entirely of all he ever heard or thought he knew on this subject, and commence from the beginning to study, and to investigate it himself, and hopes that his attempt may be successful.

Friday Morning Session.

Dr. Berry believed that it would be more profitable to discontinue the discussion on Materia Medica, and also to omit the second subject in the order of discussions, and moved that "Filling Teeth" be accepted as the subject this morning. The society agreed, and the third subject offered by the executive committee was presented.

FILLING TEETH—METHODS, AND MATERIALS USED.

Dr. J. Taft desired especially to hear from Drs. Morgan and Redman, being convinced that they were first class operators, and never having heard their methods described,

Dr. Morgan, uses soft foil in a majority of cases. Believes that any operator can make a plug hard enough to bear mastication with soft foil. He sometimes uses adhesive foil, and crystal gold, but considers the soft foil best in many cases. It can be more easily and perfectly adapted to the inequalities of the walls of cavities. He uses the file freely when necessary, and wood or rubber wedges. Very seldom uses instruments with serrated points. Sometimes in molar teeth, in making what he calls sort of two-story fillings, uses serrated points, after plugging the cavity or making the foundation with smooth points. Believes it a mechanical impossibility to make a perfectly solid filling with serrated points, on account of the fine indentations made by this kind of an instrument. Uses gold, and nothing but gold, in a large majority of fillings, and never fills a tooth with wet foil. Occasionally uses the mallet to condense his plugs. Though he does not discard entirely adhesive foil, he does not believe in its universal use.

Dr. Redman uses serrated points, and Abbey's foil No. 8. Commences his fillings by introducing as large cylinders as possible, and then filling up with smaller ones. Uses adhesive foil in some cases, but almost entirely fills with Abbey's soft foil.

Dr. J. Taft said there had been a great deal of disscussion of this subject of filling teeth, of the manipulation of gold, etc., and still it was not exhausted, and much could be learned. Spoke of the modifying circumstances which affected the result of the operation. The form of the instruments, the quality and condition of the gold, mood of the operator, physical and mental state of the patient, etc. All these circumstances should be viewed by the operator, and controlled if possible. The instruments should be in the best condition, and the *method* employed the one that brought the best results to the operator. The operator himself should regard the laws of health, and keep himself in a condition as perfect as possible, for the delicate work he has to perform. Would take him a long time to make good filling if he employed Dr. Morgan's method. He would have to train himself for work for a long time, though Dr. Morgan's results were good. It makes but little difference what method a man pursues, provided he attains the object—perfect fillings—with ease to himself and patients. Spoke of the occasional feeling of repugnance for certain patients that operators have—of an incompatibility between patient and operator, and considered it his duty not to operate for a person when this feeling existed, as this was certainly a condition that would affect the quality of the operations.

Dr. Morgan asked Dr. Taft if he had not had patients toward whom he had no feelings of repugnance, and yet who exhausted him exceedingly when he operated for them.

Dr. Taft said he had had such persons in his chair; and frequently where teeth are difficult to fill—where the walls of cavities are thin, and where there is constant danger from an overflow of the saliva, the operator's attention and energies are so strained that he becomes exhausted in a short time, and frequently breaks down or makes miserable fillings.

Dr. McClellan has experienced these feelings of exhaustion when he could not account for them by feelings of dislike, or the conditions of circumstances of the cases presented for filling. Thought it might be explained perhaps by the principle of endosmose or exosmose. Is it not similar to the phenomena, and may there not be a current of nerve force or of vitality established between the operator and patient? He believes we cannot do justice to this class of patients, and thinks it best to decline to operate for them. Where patients are very troublesome—always wanting to have their mouths examined, and where they occupy the time and wear the patience of the dentists, thinks we ought to charge them. Believes that if we charged for examinations we would not be troubled so much with a certain class of patients.

Dr. Berry suggested that the cause of the unusual fatigue at time might be found in the conditions of the atmosphere, owing to its electrical state, etc. Has experienced these feelings when he could account for them in no other way. Considers the health of the mouth a very important matter, if we wish to secure good operations. If the secretions are not in a healthy state, and if other conditions of disease are present, the permanency and perfectness of our work is affected; and we should not operate till the health of the parts surrounding the teeth is restored.

Dr. Sedgewick thinks that in many instances where nervousness, feelings of exhaustion and dislike to operate exists in the dentist, it is his own fault. Dissipation, the use of tobacco, and carelessness in regard to the observance of the laws of hygiene, are frequently causes of the inability to operate well. In his practice he uses nothing but gold and tin foils. His favorite gold foil is Watt's crystal, No. 4 or 6, which he anneals and manipulates with serrated points. Never has succeeded well with smooth pointed instruments. Has no fear of, and uses the file and the wedge. Does not confine himself to one method of filling. He uses the mallet or hand pressure, as he thinks best at the time.

Dr. Morgan hoped that some ready writer would prepare a paper for dentists, stating how and in what condition they should keep themselves in regard to health, to operate with the best success. Afterwards he was the mover in an offer of a prize of one hundred dollars for the best essay on the subject. The motion will be found in the minutes of the proceedings.

Mr. Berry wished to question the propriety of the sentiment that many of the present day maintained, that we are so much superior to the old operators. Some of those who labored thirty, and even fifty years ago, used to fill teeth as thoroughly and well, and with as beautiful results as any dentist of the present. Believed that the operations of Hudson and Badger are not excelled by any of our first class operators. There were miserable operators in days gone by as there are now; but scientific men of the past were not so far behind us in their operations, as some are vain enough to think.

Dr. C. H. Harroun said, in referring to instruments for plugging, that in most of those sold at depots, the points were too sharp, or rather too long, the serrates were too deep. He prefers making his own points, which he does with a watchmaker's file.

Dr. Morgan repeated that the use of serrated points was a violation of mechanical principles.

Dr. Wells asked how a filling would be made of gold in a cavity situated in the posterior lingual and approximate angle of a lower molar, and of such shape that gold introduced at one side would pass through the cavity with no opportunity of stopping?

Dr. Sedgewick described an operation on a similar case, where the pulp cavity was filled, and an anchorage secured there.

Dr. McClellan described a method of filling, where only the lingual and labial walls of the tooth remained. A metal band is fitted perfectly to the tooth making two artificial walls, and reducing the cavity to a simple crown cavity.

Dr. Harroun, in such cases, fills one side first with amalgam, and then makes with gold a solid approximate filling. Afterwards, he removes the Amalgam, and replaces with gold by making another approximate filling. The Amalgam makes the walls for one filling, which in turn makes the wall for the other, after the amalgam is removed.

Dr. KcMellops, in cavities presenting this aspect, uses cylinders, which he rolls on a fine broach, making them (when the bottom of the cavity is smooth) of the length of the cavity. Laying this in the cavity, he compresses it firmly, making a foundation, which is the most important part of any filling. When the bottom of the cavity is uneven and deeper at the edges, he makes cylinders that taper to suit the inequalities, and placing them in the cavity, with their tapered ends together, condenses and gets his foundation. After a solid foundation is secured, other cylinders or blocks can be used, till the tooth is built up, and the operation finished. In preparing cavities, uses chisels, and in difficult approximate cavities uses a spade, or spoon shaped, and very small chisel, with spring tempered handle, and diamond point. He uses the wedge, and where practicable and necessary, rubber around the teeth. Places bibulous paper over the mouths of salivary ducts, to avoid overflows of saliva. He explained Dr. Coffin's method of filling by reflection. Dr. C. prepares his cavities with chisels, and cuts away the lingual wall in the incisors. With reflectors, magnifying mirrors, he fills from inside, standing upright at the chair.

Dr. James Taylor's method of filling that class of teeth where but two walls—the labial and lingual—remain similar to Dr. McKellops. He makes blocks that pass through the cavity at its base, and large enough to be retained themselves in the cavity, thus making a good foundation.

Dr. McClellan described his method of filling: In preparing for filling uses chisels and excavators of but two or three shapes. The hatchet shape is perhaps the most common. Uses napkins without stint, and seldom permits his fingers to touch the naked mucous membrane. Has abandoned the use of drills for making retaining points. Uses adhesive and soft gold foil, crystal gold, tin foil, and Wood's alloy, and favors the mallet, believing that better fillings are made with it. He then exhibited a plaster model of a mouth in which a number of teeth had been built up. Their crowns restored to their proper length, &c. In this case he had excavated around the pulps, making a kind of ditch to retain the gold; and in all cases of the kind endeavors to make his fillings something like a double headed rivet, with one head secured in the tooth, and the other out of it. In restoring crowns, uses crystal gold, unless where there is danger of moisture, when he uses crystal gold foil. Has filled with Wood's Alloy, and plated with gold in large cavities, which can be done by laying gold foil over the plug, and carefully passing the instrument, heated to the right temperature over it. In these cases he has never heard of any trouble from galvanic action.

Dr. Poore, Lexington, makes his own points to pluggers. Objects to their being very sharp; and, after serrating, polishes them to prevent their dragging the gold. Believes that they work better if they are made round at the edges. He uses the mallet, and especially in shallow cavities after having made good retaining points.

Dr. Shadoan said that when he had a very delicate operation of filling to perform, always wants the assistance of his mallet. He makes his retaining points either as grooves or pits. In incisors, when the walls are thin, and the gold is likely to show through the enamel, he uses good stiff white paper, believing that it assists the thin labial wall to resist the pressure of consolidation, and gives a white and more presentable color to the tooth than the glare of gold.

The society adjourned to meet at two o'clock, P. M.

Friday Afternoon Session.

Before the subject for discussion was introduced, Dr. H. A. Smith read a valuable and interesting paper on the Minor Operations of Dentistry, which was requested for publication by the society. It elicited many complimentary and confirmatory remarks from the members.

Dr. H. A. Smith asked for some light on the operation of bleaching devitalized teeth. He has used chloride of zinc, and many other preparations, with but comparatively poor success. Should like to know of a specific, and wished to hear the opinions, and of the practice of those who had been successful bleachers.

Dr. Morgan has had satisfactory results from the application of Chloride of Zinc. He has applied it frequently. Makes his applications every two or three days, and has observed the bleaching process going on even after the tooth has been filled.

Dr. Watt said in regard to Chloride of Zinc, that it decomposes slowly. The chlorine is the bleaching agent, and being liberated by the decomposition, effects the object, if time enough be allowed. Has noticed frequently that dentists have applied creosote before their bleaching agents, and wonder why they are not successful in restoring the lost color of the tooth. They seal up, with the creosote, the tubuli of the dentine, so that the bleaching process is retarded, or prevented entirely. Creosote should never be used before trying to bleach a tooth. He prefers the hypo-chlorites for bleaching agents; for with them we obtain the bleaching properties of both chlorine and oxygen. In the chlorides (which decomposes more slowly too) we have but one active agent. The hypo chlorite of either soda or lime, is good for this purpose. Neither tannin nor creosote should be applied to the cavity when bleaching is to be done. Applies the hypo chlorite two or three times in an hour.

Dr. Talbert here read a paper, which was listened to with interest by all, on "Extracting Teeth," which in fact opened the subject for discussion for this session. In the essay read reference was made to the best position for the operator in extracting left superior molars. The author recommending, on account of the better control gained over the patient, and the easier application of the force required by the operator, the dentist to take his position on the left side of the chair, as nearly in front of the patient as possible.

Dr. Jas. Taylor agreed with the author of the essay in this particular, and, by request, demonstrated his position clearly, by taking a pair of forceps and assuming the exact attitude, on the rostrum, before one of the members. He stands on the left side of his operating chair, and nearly in front of the patient, holding between his thumb and fingers of his left hand, the alveolus about the left superior molar. Believes that in difficult cases of extracting these teeth, much can be gained by this position. He seldom uses the gum lancet.

Dr. H. R. Smith thinks the operator loses control of the patient by taking the position advocated by Drs. Talbert and Taylor. He prefers standing at the right of the operating chair, having support from it, and controlling perfectly the head of the patient. He disagrees with the author of the essay, in regard to cutting the gums before extracting. In many cases the gums are torn, and unnecessarily lacerated by using the beaks of the forceps in the place of a gum lancet. He regards the gum lancet a very useful instrument, especially before extracting adult's teeth.

Dr. Taylor favors the plan of forcing the forceps deep into the socket, believing that the root of the tooth is thereby forced out.

Dr. Shadoan prefers to take his position on the right side, in extracting any tooth, and considers this the true and scientific position for the dentist.

Dr. Watt. Some allusion having been made to the position of the fulcrum of the turn-key, insisted that the proper place for this relic of *barbarism* was the wall,—the key hanging by a nail. He prefers having the beaks of his forceps made long, so that any tooth can be grasped, and all necessity for using the turnkey be avoided.

Dr. Taylor in some isolated cases employs the turnkey with advantage. He would not like to be without one, though never uses it when anything else will do.

Dr. Poore, of Lexington, takes position on the right side of his chair, and has no delicacy about "hugging up" the heads of his patients. But very seldom uses the gum lancet. Believes in driving his forceps home when he is about to extract a tooth. Thinks the operator should *possess* himself. Is very successful in extracting teeth, and a large number of persons in his neighborhood have given him credit for extracting with but little pain.

Dr. Berry thinks that no operation in the province of our profession assists more in giving reputation to a dentist than extracting teeth if it is performed skillfully. Considers it a most important operation, and one that needs not only careful judgement and great caution, but knowledge and skill to perform it when necessary and in a proper manner. He has given much attention and earnest study to this branch of dental surgery for many years; yet when he hears of the great success, and the few failures of so many of his juniors in experience who seem to regard the operation so lightly, he feels a strong inclination to give up extracting teeth entirely.

Dr. McClellan said that the longer he practices, the more cautious he becomes in extracting teeth. Believes that a great many of the accidents attending this operation are the results of carelessness on the part of the dentist. He uses a small, delicately shaped, and sharp gum lancet, and passes it around and between the teeth, believing it important to preserve the septa of gum.

Dr. Morgan dislikes extracting exceedingly. Believes that it is an operation that carries a reproach to the profession with it. Thinks that too much care can not be bestowed upon the operation, that judgment and carefulness should precede, accompany and follow every performance of this business. Every tooth extracted is an evidence of inability to save the natural organ.

Dr Sedgewick never extracts a tooth unless it *must* be removed Seldom uses the gum lancet. Agrees with the gentlemen who believe in careful operations, etc.

The society adjourned to meet in the evening, at 7 o'clock.

Friday Evening.

Before proceeding with the regular subject of discussion, Dr. Cushing read an exceedingly interesting essay on "Dental Education." He presented instructive and original views and valuable opinions on the various branches of this important subject. The essay was appreciated by the society and a copy requested for publication. We hope all the members of the profession may have the benefit of Dr. Cushing's opinions and thoughts, as expressed in the essay.

The regular subject was then introduced for discussion.

MECHANICAL DENTISTRY.

Dr. Cameron, being called upon, said, I will, no doubt, be regarded by many as an old fogy in my ideas, because I have but very few good words to say for the popular vulcanite work. Those who recommend in their offices, vulcanite as being better than gold for plates in all cases, will probably consider me far behind the times; for I cannot agree with them. I always, when asked for my honest opinion in regard to this matter, recommend as above all other materials for artificial work, good gold. I do not advise the use of either silver or vulcanite, though I use both. I do not consider silver suitable for the mouth at all, though in very many cases I advise its use before vulcanite. I tell my patients that gold is the best material I can use—platinum also makes a good base. I tell them gold work is stronger, easier kept clean, more readily repaired, not so thick and "bunglesome" as the vulcanite. When they take the gold they never come back asking me to change it for any other material. This is not always the case when they take the vulcanized rubber.

I have frequently, after making entire sets on rubber, had the patient come back, in a few weeks or months, thoroughly disgusted and wanting a change to gold. For temporary dentures, where the patient can't afford gold, I prefer silver. When I cannot get a rim of vulcanite over the artificial gums, I have several times refused to make work on vulcanite, unless the patient will take the entire risk of a bad fit and frail piece. One argument offered in favor of the vulcanite is that it is cleaner, or more easily kept clean, than metal plates. True there are no interstices for the food. and secretions of the mouth to get into; but the whole plate becomes covered with a slimy deposit of apparently vitiated mucus, which must be exceedingly disagreeable, and salivary calculus seems to have a special affinity for the rims and posterior palitine portions of the rubber plate. In artficial work, I discard clasps entirely and depend upon atmospheric pressure, and as good fits as possible, to keep my plates in their places.

Dr. Rosson asked if Dr. C's sets ever drop down.

Dr. Cameron, oh, yes! have had them drop out of the mouth, and I don't know how many yards away. My reasons for not using clasps is the injury they most certainly cause the teeth to which they are attached. For full impressions I use plaster, and for partial cases, beeswax. I make my casts of zinc and lead, and have but very little trouble with the changing of plates, from the shrinkage of the zinc casts. After having ground and adapted my teeth to the plates, (and rim in entire dentures,) I always try them in the mouth, see them, arrange and fix them just as I expect them to look and fit, before I finish them. From the mouth I take them, and invert in sand and plaster, in about equal parts. I use no stays, or wires, or clamps, to prevent warping, and never calculate on trouble from this quarter, when the work is properly inverted. I make my own solder, taking the gold of the plate to be soldered, and fine sheet brass, in the proportion of two grains of brass to a pennyweight of gold. I melt the gold first, and then introduce the brass, which should be stirred about thoroughly. With this, if the borax and plate are clean, and the whole piece heated to a cherry red color, the soldering is but very little trouble; and we have a smooth easy flowing solder, that will not tarnish in the mouth.

Dr. TALBERT said, I think we have much less trouble with work when we use good gold for our plates. I prefer always to use gold of 20 or 21 carets fine, and believe that this quality of plate is much less liable to spring or warp under heat. I use compound metal dies, and consider them more accurate than zinc and lead, unless we use our zinc but once or twice, and have it pure in quality. Perhaps if all would use a good quality of gold, and have our laboratories fitted better for manipulating metals, the rubber work would not be in such great demand.

Dr. BERRY had, a few years ago, always taken coin gold, and without melting, simply rolled out his plates. He was then sure of the quality of his plates, and saved the extra trouble of melting and refining gold.

The Society then adjourned to meet next year at the time agreed upon.

On account of an unusual amount of miscellaneous business that required the attention of the Society, the subjects for discussion, as appointed or recommended by the executive committee, were rather briefly discussed. I do not, however, pretend that the above is by any means a full report of all that was said on the regular questions; but if I have gleaned enough to interest the readers of the REGISTER for one short hour, I shall be truly thankful. If I have fixed a little of the "floating knowledge" of the profession in a tangible form, or if I have reported clearly some of the sayings of truth and wisdom that were so abundant during this meeting of the Society, I shall be satisfied with my attempt in my new *role* as reporter of so learned a body as the Mississippi Valley Dental Association.

Editorial.

NITROUS OXIDE AS AN ANÆSTHETIC.

We have had many inquiries recently in reference to nitrous oxide as an anæsthetic, more particularly with reference to its practicability in dental practice. There is on the part of every progressive member of the profession a desire, and properly so, to avail himself of every new thing in the use of which great advantage is to be derived, or is even anticipated. This is not, in one sense, a new thing, though the demonstration of its practicability is of recent occurrence. From the limited experience we have had with this agent, and from all the information we have been able to gather in reference to it, we have no hesitancy in expressing the full belief that it is the safest general anæsthetic in use. We are not aware of a well authenticated case of death by it. Its mode of action upon the system is very different from that of chloroform or ether; it increases, while they diminish, the amount of oxygen in the blood. We are free to admit that injury may be occasioned by its injudicious or excessive administration, but there is certainly not the same liability to sudden fatal results. It should ever be remembered that any agent that acts as rapidly and as extensively as this, is liable, especially in the hands of a careless or ignorant operator, to do mischief. It is also important that the agent be pure.

It has advantages in the following respects: its comparative safety, its rapidity of action, and its almost universal efficiency. We have scarcely heard of a case in which it did not act promptly and well. It is especially adapted for brief minor operations. It may be equally well employed by both the general surgeon and the dentist. The continuance of its influence is brief, ranging from fifteen seconds to a minute and a half, under one administration, so that where much is to be done, it necessarily involves rapid execution or repeated administration; and for operations in the mouth, where there is much hemorrhage, the latter is objectionable.

Another difficulty that attaches to the use of this agent is that it cannot be manufactured and kept so conveniently and in so small a compass as chloroform or ether. The present mode of administration is cumbersome and unsightly, though we believe some improvement has recently been made in this particular, by the substitution of a large rubber tube to the general gas-holder, instead of the inhaling bag. Great care should be exercised in the selection of the material from which to prepare the gas, and also in the manner of its preparation. No one should venture its preparation who is not a good chemist, or who has not been trained by a good chemist in this process.

We do not regard the use of nitrous oxide as an anæsthetic practicable in the hands of the ordinary dental practitioners for daily use. It would thus consume too much time, and divert the attention too much; but it can be made very valuable and highly advantageous by establishing in all cities large enough to sustain such an enterprise an office or offices, where special attention shall be devoted to its administration. Such arrangements are already in operation at a few points, and operate admirably.

In smaller towns and in villages it may be made practicable by the dentist giving his exclusive attention to that particular subject at fixed periods: for instance, one day in the week to extract teeth, and for the performance of such other operations as would require the gas.

For directions for its preparation and administration, see a little work prepared by Prof. Barker, of Philadelphia, and noticed on another page of this number; or a little pamphlet prepared by Dr. A. M. Leslie, of St. Louis, in which very brief and concise directions are given.

Apparatus for the manufacture of nitrous oxide gas, for anæsthetic purposes, is manufactured by several parties in this country. Dr. A. M. Leslie, of St. Louis, makes the apparatus in two or or three forms; one to be put up as a permanent fixture, another put up in very small compass, that he who runs may take it with him. These, we think, are sold at from $25 to $45 each. They are also sold by James Leslie, of this city.

The apparatus manufactured by G. W. Sprague, of Boston, is in some respects the most perfect yet produced; it is self-regulating in regard to heat, which is a very important item; but we believe this feature can only be employed where the common illuminating gas is used. It is a very fine apparatus, indeed, as we know by practical test. The cost is about $100.

DENTAL EDUCATION.

This may seem to be a hackneyed subject, but it requires a strong agitation nevertheless, and it is full time a move was made in the matter, and that the agitation consist of something more than mere words.

The necessity for such a movement is apparent to and acknowledged by almost every one in the profession; and it is certainly a matter of great interest not only to the profession, but to all. The call for reformation in this matter of medical education is loud and clear, and particularly is this true in reference to our own specialty. Many resolve and seek to enter the ranks of the dental profession with scarcely any conception of the attainments requisite to constitute a reputable and efficient practitioner of dentistry; some care nothing for it, further than it may be a means of making money.

There are always some who will be influenced by selfish motives. There are others who from a want of proper conception, having started in the wrong way, find it exceedingly difficult to get into the right. And hence the great importance of *starting right.* Some have been disposed to find fault with our Dental Colleges and those who have in some sort served as educators in our profession; but the fault does not begin here, but it has its beginning with those members of the profession who fail to impress upon the mind of the young man contemplating a course of study a proper conception of its character and extent. Too often he is led to believe that it is but the work of a few months to obtain all that is necessary to constitute an efficient and successful practitioner; that it consists simply in attaining some mechanical and manipulative ability, together with a little smattering of general principles, while general literary and scientific education is wholly overlooked.

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CRYSTAL SHRED GOLD.

Manufactured by E. LAMM; *For sale by* SAMUEL S. WHITE.

I have seen two specimens of this gold—have tried one. It works well—better and with more facility than the New York preparation. Its introduction will prove a professional blessing I would buy it and use it all the time, were it not that we prepare, for our own use, an article still better. I greatly prefer it to foil.

A friend says he got a specimen that crumbles badly. It isn't his fault, for he knows how to use it. I hope that piece was an accident. W.

INSTRUCTIONS IN NITROUS OXIDE.

By Geo. T. Barker, D. D. S., *Professor of the Principles of Dental Surgery and Therapeutics, in the Pennsylvania College of Dental Surgery, etc., etc.*

This is a neat, large-type, well gotten up little book of sixty-one pages (just the orthodox size), published by that well known firm Rubencame & Stockton. It will be found a good thing for the student; and nearly all the profession are but students, as far as the protoxyd of nitrogen is concerned.

The book can be had at the dental depots.

BOOKS.

We presume it is known to many of our readers that the large and splendid book establishment of R. W. Carroll & Co. of this city was entirely consumed in the conflagration which destroyed Pike's Opera House, in April last. The loss was very great—seemingly enough to crush men of ordinary ability. But we are glad to note the fact that the establishment is again under full headway, with as full and fine a stock of all that pertains to the book trade, as is any where to be found.

The thorough resuscitation of so large an establishment, in so short a time, gives evidence of a business energy and perseverance, that no ordinary calamity can thwart. We would say to our dental and medical brethren, that they will, at all times, find a full and complete assortment of their respective professional works in this house.

Every condition and circumstance requisite to render a business transaction pleasant and satisfactory, will, at all times, be found here.

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Original Communications.

PROFESSIONAL LONGINGS.*

BY GEO. WATT.

Read at a meeting of the Mad-river Valley Dental Society.

During the Irish famine, Henry Russell was singing,

"There's a good time coming."

And he was a true philosopher who responded from the crowd, "Could ye fix the date, Mr. Russell?" Aye, the date! That is it that troubles us all.

> "Hope, like the glimmering taper's light,
>   Illumes and cheers the way;
> And still as darker grows the night,
>   Emits a brighter ray."

But, if we only knew *when* that light is to brighten and dazzle till the darkness flies away—if we knew just the time that hope is to become fruition, how much of our care and anxiety for the future would be dispelled!

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* This article, written while an invalid, was sent to the "Dental Cosmos," was rejected by the editor, and *kindly* returned by the Publisher. By way of appeal, it was read to the "Mad-river Valley Society," and the members, at the time ignorant of its history, referred it to the Publication Committee, with the request that it be forwarded to the "Dental Register." The writer is not responsible for its appearance in print, but has no fault to find either with its rejection or publication.

But if this train of thought is to be followed out, the heading of this article is a misnomer; and *human* longings is its appropriate title. But this would be a range too wide for my pen, and too general for a journal devoted to a specialty. So, let the hopes, the cares, the cravings and desires of our special profession claim our present attention.

"There is a natural body, and there is a spiritual body," we are told by the learned Apostle of the Gentiles. This statement is usually held as if it read, "There *is* a natural, and there *will be* a spiritual body." But, in the obvious meaning of the language, the spiritual body has its existence at the time of writing, as really, and in the same sense, as the natural body. The "body, soul and spirit" are usually spoken of by inspiration as so many separate, special realities; and why the popular mind recognizes the separate identity of the body, while it denies such identity to the other two, is hard to understand.

Our Creator has given us two sources of information concerning Himself and His works. Leaving the critic to object to our terms, if he pleases, let us call one the Book of Nature and the other the Book of Revelation. These two volumes do not, to our limited capacities, teach the same things; nor, where they do coincide, do they teach to the same extent, or with equal clearness. But that they never disagree is plain, in that both are emanations from Him who is "the same yesterday, to-day and forever."

Then does the *first volume* teach anything about the *existence*, nature, capacities, or powers of the spiritual body? Let us read. What presumption! Let a blind idiot translate the Egyptian hieroglyphics; but let not man, in this benighted state, attempt more than a few letters of the alphabet of this wonderful book!

And let us learn the first letter from a fellow-creature, innocent, humble and happy. If a crab loses one of its members, it is well known that a new one grows in its place. It grows the right size, and of a proper shape. The nutritive powers of the animal are not allowed to act at random. They are controlled by an agency unseen by material eyes. Something tells them where to lay each particle of matter, and when they have brought material enough. Some principle, or *thing*, acts as the Creator's vicegerent, and nothing is bungled. The animal grew to its normal shape and size, in the first place, under the control of this agency, and now it controls the repairs. Is here a hint of a spiritual influence? "There is a spiritual body."

A hint, not less plain, is given by the reparative process in higher orders of animals. Wounds of the soft parts in man are healed, form and function being mainly restored; and even bony tissues are reproduced, so as to demonstrate that some unseen power is trying to retain to man his normal shape and condition. And who does not know that when a part of a member is severed from the body, that member remains unconscious of its loss, and that the news of its severance is conveyed to the soul, or to the individual's consciousness, not by itself, but by other organs? When the roll of the company is called, after a battle, every man that answers to his name is regarded and reported as alive and present. When the soul (or the brain, may be), as captain of the organization, calls the roll of the bodily members, the dissevered member answers as it always did. The man who has lost an arm feels as if his arm and hand were still present. Irritation of a nerve fiber is felt, not at the end of the stump, but at the ends of the fingers which have been removed. That is, the feeling is just the same as if the fingers were present. They promptly answer "*Here!*" to the roll-call; and who, in our present state of knowledge, has a right to report them absent? Are there spiritual fingers to the spiritual body? "There is a spiritual body."

What is true of the fingers is true of all the organs. It is on this principle that "tooth-edgedness" and toothache are felt in artificial teeth—are felt by those who have no teeth. The organs, which, it is claimed, have been removed, or their spiritual prototypes, are simply answering to roll-call.

Do these hints indicate that the "natural body" (that body formed by an aggregation of the physical organs) is simply the servant, or the instrument of the spiritual body? Does it not appear that the spiritual body fashions, moulds or shapes the physical organs, the "natural body," to suit its own ends? That the physical, or natural, body, is not essential to, and, indeed, has nothing to do with personal identity, is evidenced from a single consideration. Those of us who have reached middle age do not possess the smallest particle of the physical bodies of our childhood; yet it is evident to our consciousness that we are the same persons. Matter which then constituted parts of our natural bodies, for aught we know, now aids in forming the bodies of beasts, birds or reptiles; but in this whole process of waste and repair there is not the least confusion of identity, for the soul and the spiritual body are not modified by such things, but remain the same.

That the spiritual body is not obvious to our senses, is no objection to the theory of its existence; for spirits are all around us, ministering to our spiritual wants, or tempting us, through the instrumentality of our passions and propensities, to deeds of crime. Even the aged spirit who claimed that he was "going to and fro in the earth, and walking up and down in it," and who is described, by a higher authority, as one who "goeth about like a roaring lion," is not recognized by our ordinary consciousness. For a spirit, or a spiritual body, to be invisible, it needs simply to be transparent. But who, Oh, who! will satisfy our longing desires, by telling us what a spirit is, and how it acts on, and what its relation to matter is, and how it communicates with a kindred spirit?

When these questions are answered, and these longings satisfied, then we will know something of physiology. But here we know only in part; but there is a place, and there will be a time, where and when we will know even as we are known.

"One of the joys of our heaven shall be," I doubt not, a fuller and clearer knowledge of the refining and ennobling sciences than it is possible for us to obtain here. The existence of these longings is an evidence that they are to be gratified; and the limited attainments we are able to make now are an earnest of that which is in store for a higher and better state of existence.

Turn which way we will, in pursuit of professional knowledge, our view is obstructed by the mists and fogs of doubt and uncertainty. Take, for example, the disease we encounter most frequently. It goes on in its work of destruction, torturing childhood, turning the smile of the blushing maiden to a ghostly grin, bringing on premature old age, and shortening human life; and yet we know almost nothing of its nature, essence, or causes, and confess to this ignorance, by continuing to give it a name which we know is a misnomer.

When a dentist looks at a decayed tooth, he ought to be able, from its appearance, and from accompanying circumstances, to tell exactly what chemical agent induces the decay. He should know, also, the composition, the source or origin, and the *modus operandi* of the agent, as well as its antidote, and the proper mode of preventing its formation. But who is to tell us these things, and when will he tell us? And why must little, unweaned babes suffer the untold tortures of toothache? And why need they suffer the ordinary agonies of first dentition? Must the nutritive functions always be so perverted, that this process, which ought to be a blessing as painless as sleep, shall prove a prolific source of misery and death? Who will teach us the laws of life and health, so clearly and thoroughly as to enable us to rear children who, with painless dentition, shall develop dental organs that will last to old age?

"Prophets and kings desired it long,
But died without the sight."

And so, I fear, many, very many, of us who have desired and longed to see these blessings rest on our race, will die with our longing souls unsatisfied. But what of it? Abraham *rejoiced* to see the day of Christ; "and he saw it and was glad." The best view of the promised land ever obtained by the eye of an Israelite was that of Moses from the top of Nebo. So now, those in the profession whose faith and hope are normally developed and properly cultivated, have a Pisgah vision of the "good time" that is to bless mankind, through the instrumentality of our profession; and we see it and are glad.

What a wide field is still open for professional exploration, and how much wider the space covered by our ignorance than by our knowledge! Yet how often do we find men in our profession who think, no doubt, we are the people, and wisdom will die with us! As a conductor of a professional periodical, I have often requested brethren to write something for publication; and the almost invariable answer has been, "Oh, there's nothing left to write about." I have suggested to individuals to take some subject and give it a special investigation, and then give us the results of their examinations; and the answers received have been, in substance, that there is no subject but has been examined, and written to death. Now, if any suggestion here should prove useful in exciting to study, in stimulating our profession to explore untrodden ways, I will be amply rewarded for my trouble in writing this.

VITAL FUNCTION IN DENTINE.

BY DR. WM. M. ROGERS, SHELBYVILLE, KY.

MUCH discussion has been held upon the character of the functions performed in the teeth; many important questions have been raised, debated, and abandoned to their native darkness. We grope in doubt and perplexity—we suggest vascularity, we turn to the fact of cellular circulation, as embraced in the idea of *exosmosis* and *endosmosis;* but foiled in the search for palpable evidences, we relapse into the consciousness that all is but vanity and vexation of spirit.

Talent and energy enough have been devoted to this subject to have worked greater results in almost any other field of knowledge. Yet, if these results have not been conclusive, they are still important, and reflect the highest honor upon the student. Light, light, more light is needed. Without it dental practice must be largely empirical.

In order to treat disease with a clear degree of intelligence, we must be familiar with the organism to which attention is given. If we cannot demonstrate an anatomical structure, what shall we say of its physiology; and how shall we comprehend its pathological conditions?

I apprehend that all treatment must be based either upon experience or upon a scientific comprehension of the conditions to be met. The first can never in itself be completely satisfactory, even in its success, to our intelligence; the other must be predicated upon ascertained truth, or upon principles legitimately educed from it.

Accordingly as we admit or deny the agency of vital action in the phenomena exhibited in the teeth, so must we be confined to the beaten round of empiricism, or diverge into fields of discovery and progress; hence the subject is one of practical importance, and should be squarely met and decided for himself by every practitioner of dentistry.

The basis idea of this paper is the unity and continuity of the *plan* of God's creation—unity and continuity, whether considered as a long line of connecting links, or as an infinitude of groups and families, overspreading and fusing into each other in geometric circles.

Every character of reasoning must have an element of fact upon which the foundations are placed. We must rise from experience to law; and then, applying the law to the arranged facts, we may trace connections, nay, we may venture to supply them, just as a rational man would supply a lost crank to complete the connections of machinery.

Raise from their vulcanized beds the extinct species of the vegetable kingdom, and you find a vacant page upon the botanist's book for them. Exhume the giant bones of the mastodon, and he marches to his unfilled place in the ranks of creation, and passes the number "one, two," like a veteran as he is.

One of the difficulties attendant upon investigations of the dental organs arises, I apprehend, from imperfect nomenclature. Our nomenclature, at the first an offspring of our study, becomes at length the mould, and finally the very concretion of our received ideas.

If we say that dentine is susceptible of inflammation, we are told that some of the symptoms are not exhibited in the case which we so diagnose. If we assert that it is vascular, a demonstration is required, and we fail. In the one place we must claim an inflammation modified by the character of the organ in which it exists; in the other a vascularity so modified and obscured as to be but a pseudo-vascularity. Or, if you will, let me yield the point, and predicate a cellular arrangement. In fine, we must claim that the phenomena of vital and morbific action in dentine are just such as the character of the structure will admit, and not otherwise.

If we would vindicate the *harmony* of nature, we should claim another position, that is, that in a changed condition of organism by nature from her well defined plan of execution, we are not to look for a change of *law or plan*, but for a modification in adaptation to the purposes to be subserved, and then only so far as the purpose may demand. We can admit of no caprice—no mere expedient of a puzzled contriver.

The various modifications of the cutis and mucous membrane are illustrations of this position. In analogy with these we might be permitted to place the enamel, with its subponed sensorial tissue; and, under perfect normal development, its super-consolidated pellicle.

A striking illustration of the idea may also be traced in the morphology of plants. Here the seed, the embryo of the future plant—the evolving plumule—the multiplicity of succeeding terminal and auxillary leaf-buds—the metamorphosed fruit-bud—the bracts and sipals, the stamens and pistils of the flower, all are *modifications* of the chosen type, *the leaf*, changed in adaptation to the purpose to be accomplished. One step only in the stage of metamorphosis might have indicated a simple contriver and an obedience to expediency; but the continuity of modification, in unity of expression, clearly indicates a line of legal sequences, in which are shadowed the breadth and compass of the architect moving on to his designs in unity of purpose and harmony of conception. Here let us note the fact that in all this change of structure there is no point in which the vital functions are superceded, or from which the vital fluid is excluded. The limits of the one are the *ultima thule* of the other.

How many thousands of different species of plants does the vegetable kingdom present? How long might we turn the microscope to another and another of these, in the vain effort to detect nature in the act of circulation? Shall we conclude, in the absence of demonstration, that we must reject the fact? But in some of the water plants, the circulation in the cells of the leaves is at last discerned and the question is at rest.

If we cannot detect a circulation in dentine, have we not the strongest reasons to assume the fact? Let it be never so feeble, and never so subtle, when once admitted, everything arranges about it in harmony. If one character of circulation is impossible, then another is demanded, lying far out, it may be, upon the extremity of vital forces; but none the less are organism, life, function and nutrition, to be held as correlated and inseparable facts. We may here refer to a fact within the knowledge of every horticulturist, illustrative of the law of adaptation in changes of living organism. In the operations of budding and grafting, a degree of congeniality between the stock and the inserted bud or graft is essential. As men do not gather grapes of thorns, nor figs of thistles, neither do they transfer the grape upon the thorn, nor the fig-tree upon the thistle.

The pear is inserted upon the quince, and, under favorable circumstances, it flourishes for an indefinite time. It occurs that there are varieties of the pear that refuse this alliance, or hold it feebly. For such an intervening stock must be supplied. Place the sickle upon the quince, and it grows feebly, and at last succumbs; intervene the Duchess, and it grows in health and vigor. I cannot admit that this illustration is impertinent, as being an interference with nature's own courses, we but put the witness to the test of a cross-examination, and, true to her proclivities, she answers in the line of law, and demands an adaptation through which the life-forces may be exhibited.

The suggestions do not stop here; but I have pursued them as far as I designed.

In the osseous structures of the teeth, we have, first, *cementum*, the intervening modification between periosteum and dentine; then, *dentine*, and *enamel*. Chemical analysis gives us, in these substances, a varied amount, relatively, of organic and inorganic material, cementum having the largest proportion of organic substance, next to which are dentine and enamel in order. With reference to the inorganic constituents, the converse is true. In microscopical examinations these substances recede from the more palpable evidences of vascular structure in the same direction.

There is a comparative conformity of the pulp to the external periphery of the tooth. Is this a coincidence, or is it in some way founded on the reason of things? If the teeth are mere mechanical structures, would not a solid crown have been indicated? Why this little *intero-organism,* and this conformity? Look at the compact structures to be nourished. They must, of necessity, from this fact, be placed close around the base of supply; the faintness of their vital organism demands it.

The pabulum of the teeth must be borne through their substance by a solvent. In normal conditions this solvent yields its treasures, it may be, to the assimilating functions, and hence the consolidation of dentine during the advance of life. It may take, in solution, the effete matter presented, or it may reduce the solidity of structure, and thus become correlative with chemical action in the production of decay. It is entirely comprehensible that a given cause may be sufficient for the production of an effect, and yet not be the only cause involved, but that there may be other and independent causes concurrent with and conducing the result, and yet not essential.

Every dentist is familiar with a class of long teeth, in which the pulp lies deep, a class that tolerates larger fillings, perhaps, than any other.

They are usually yellowish in color, and below the medium in density.

Is not vital action always feeble in such? Again, we have seen a class, short, compact, and very dense in structure. They are usually blotched with yellow in the enamel, and highly sensitive at the juncture of the enamel and dentine. Do these teeth not exhibit an instance of the strangulation of the nutrient organism in this super-consolidated enamel? I am inclined to think so; but I design the questions as simply suggestive.

Again, are not all those cases of the consolidation of dentine after filing and polishing, and after the near approach to the pulp in filling, the result of the faint remedial effort of *organism* to protect the citadel of its safety? Why the surcharged condition of the dental vital fluid with the constituents of dentine, resulting in *spiculæ* and nodules of secondary dentine within the pulp cavity, and in hypertrophy of the fangs? Have we here a supply in excess of demand, or is access to the point of demand no longer attainable, and a calciferous congestion and deposit the result?

We have seen dental structures by abrasion of the coronal faces, followed by deposit of secondary dentine, thrown out over the retreating pulp. This deposit is very dense, and is blackened and glassy in appearance. Will the principles involved in the foregoing remarks account for this? Have we not another instance of strangulation, and a sort of atrophy, in which the organic constituent is represented in the carbon of its composition, left as the *debris* of the retiring pulp?

Bind a ligature around an orange tree, or a silver-leaf poplar, and in a few years an enlargement occurs just above the ligature. It will often appear, after grafting trees, that the scion in progress of growth enlarges into a monstrosity, just at the point of juncture with the stock. Here we have a manifest arrest of the wood-producing pabulum, resulting in hypertrophic deposits. Are not the cases of hypertrophy of the fangs and deposits of dentine in the pulp-cavities of the teeth referable to the principles involved in this condition of vegetable pathology, if we may so designate it?

I have rapidly scanned my subject; it will be seen that it might have been indefinitely elaborated; but I have preferred to touch the points involved, and to indicate what I suppose to be their bearings, leaving the intelligent dentist to pursue them if he may think them worthy of such attention. I have not attempted to indicate a hypothesis of structural arrangement, but to support the theory of vital function in dentine.

If there be those who have already planted their feet upon the platform of "*a priori*" reasoning, and have leaped the chasm to the solid facts of demonstrated structure, to such these remarks, having been anticipated, are useless. But are not all such aware that too little attention is given to the idea of *vital* phenomena in the teeth? Can there be progress in any other direction? Can we admit that the Creator finds in these organs a successful barrier to the transcendent *plan* unfolded in us, above us, below us, and around us, in such wondrous harmony and unity? Is there a necessity above God? Here I would suspend the question involved in this essay.

THE USE OF THE MALLET.

BY LUCY B. HOBBS, D. D. S., CHICAGO, ILLS.

[Read before the Iowa State Dental Society.)

ALTHOUGH among the later professions, yet there is none, to my knowledge, that has made more rapid progress, or attained a higher degree of perfection than dentistry, in its various branches. The mechanical, for many years, occupied nearly, if not all the time, and talent of the gifted in the profession, each vieing with the others to see who should make the greatest change in the prevailing system, till we had almost as many different ways of inserting, or preparing artificial dentures as we had dentists. That department of course, brought out all the talent of the profession, so that they soon had it to such a degree of perfection, that any *ordinary* dentist could make teeth to excell even nature itself, as we were often informed. Not so with the operative part; They did not even seek a change; but each operator followed on the well beaten track of his illustrious predecessor, year after year. True, there were some honorable exceptions to this assertion; yet, with the mass, it was true, as far as I have been able to learn from the perusal of the dental literature within my reach. I hope I shall be pardoned by the profession, if I make any wrong assertions, and that they will attribute it to the right direction, ignorance, not a wish to prevaricate, for they will remember that all the knowledge I have been able to gain has been from books, till within the past year; and too many times they leave students more in the dark than they were before the perusal. It appears that each operator was afraid to make any decided change in the system, as Prof. S. remarked one day "that it required more moral courage than most men possesed, to advocate a theory against so many learned men," so each followed on in the old system of hand pressure in its various forms, till Dr. W. H. Atkinson, one of those inventive minds (one who possessed assurance enough of his own merit, to bring it before the profession) conceived the idea of the use of the mallet in condensing gold fillings. It was about the year 1858 or '59 that he first introduced it to the profession in the Convention; though, I believe he claims to have used it in practice some time previous. Prof. Taft, being one of those ready to grasp any new idea, if it had the slightest chance of success, soon commenced the use of it; and became a more earnest advocate than its founder, if possible. Thus without any controversy, and very little writing, the profession have unanimously adopted it. It is such a self-evident fact, that it is the best method, that one and all think it unnecessary to waste time to write about it; for I have been unable to find one article in the Journals pertaining to it. I am led to believe that this must be the reason why I was requested to write upon this subject to expose my ignorance. It was not long before many of the older operators, who had sacrificed their health, and almost their lives, in endeavoring to advance the profession, found that they could operate hours with less fatigue and do better work with less strength, than formerly; and thus, by degrees, from various reasons, it has become the prevailing system among the best operators. It needs but a few facts to show to every thinking mind, that it is the best system yet known to the profession for all ordinary fillings, as very few but can be better and more easily condensed than by hand pressure. No proof is necessary to show that any one can do better work, when he can give all his attention to the placing of the gold in the cavity, stand easy and natural, and have an assistant do the condensing. In the old way the operator was all worn out with a few fillings. The position was such that in most cases the strength could not be applied in the right direction, but at a great disadvantage to the operator, so that after a very few years of practice an operator was worn out ere he had arrived at any degree of perfection. Any one that has tried both systems, will admit that more gold can be condensed in a cavity, and, of course make better filling, as it is more solid, than in any other way, as instruments have fine serrated points, and as it is driven firmly to place by the mallet it leaves deep points to be filled, and, of course makes good receiving surface for the next block, and so on, till it is one solid mass. Let the gold be used in any form you choose, it can be better condensed with the mallet than with the hand. To make good fillings with the mallet, one must have good, deep retaining points. In some instances, it is very difficult, if not impossible, to make a good filling with the mallet, in the usual way, for instance, in broad shallow cavities, where it is impossible to get retaining points, the gold will be quite likely to roll out in one solid mass, to the great annoyance of the patient, and extreme mortification of the operator, The humane operator will give it a fair trial. For there are none but are well aware that it requires strong nerves to endure the hand pressure, without some manifestation of suffering, but with the mallet, I have known the patient to sleep, when the operation was long, thus showing that it was not very unpleasant. Some claim that it is beneficial in cases of periostitis; but how the cure is effected, or what its *modus operandi* is I am unable to say. One great benefit which the profession will derive from it, is the superior advantage of the young members to learn operative dentistry. Formerly the visits to the operating room were few and far between. Patients objected to their presence; but now it is necessary. In condensing with the mallet little instruction can be given, a few hints are all that are necessary to the most unexperienced. Let the operator hold the instrument in such a manner that every blow will drive the mass to the walls of the cavity, so that a fine solid margin is made to the filling, thus protecting the edges of the enamel, from the fluids of the mouth. Some times the operator is much annoyed by the gold clinging to the instrument, (especially if the serates are deep) and pulling away the blocks previously inserted. To avoid this, the best method I know of is to remove the pressure which all operators give, I believe as they place each piece of gold in position, and as most of them condense with two blows of the mallet, the first driving the gold firmly into the block previously placed, as the second blow, in being struck, removes the pressure on the instrument, and by applying just force enough to hold it in position, the second blow will condense just as much as the first, and at the same time loosen the instrument from the gold, so that there will be no tearing away of the parts, this is more necessary in the use of the pellets of adhesive gold, than in the block or cylinders, which are less liable to displacement. In condensing, it is better not to pass the instrument closely over all of the part of the gold previously inserted, for it becomes so cut up and hardened on the surface that the gold will not adhere, but clean away in pieces, thus making it almost impossible to build up a tooth properly. Feeling that what little I may be able to say upon the subject is so much better understood by the profession than I can possibly be expected to understand it, I feel like asking pardon for attempting it, and consuming so much valuable time and not rendering a just equivalent for it.

EXPOSED PULPS.

BY HENRY S. CHASE, D. D. S., M. D.

Read before the Iowa State Dental Association.

So much has been said upon this subject recently that some may consider its discussion uncalled for at this time; yet we must continue to talk upon familiar topics, for those are they which most concern us, and for the better understanding of which we must continue to investigate.

Teeth with exposed pulps should seldom be extracted. A few years since extraction was the common mode of curing tooth-ache. Now we hope it is daily growing less frequent. Just as rapidly as dentists understand and practice the true principles of therapeutics, just so fast will people desire and demand of the profession the salvation of their natural teeth.

The diagnosis is not obscure; there is pain of a peculiar character, sharp, plunging, and nocturnal. The patient tells you "the nerve is bare." Pain is aggravated by contact of solids or liquids, or even the air itself. There is inflammation of the pulp, and swelling, it forces itself through the smaller orifice communicating with the cavity of decay, becomes strangulated, and pain of the most aggravated character ensues. Suppuration from the surface sometimes occurs, and you will see pus in the cavity of decay. Sloughing of the part frequently takes place, and then the pain ceases for the present, only to be again renewed on the first exciting cause. These "fits of tooth-ache" may occur every few weeks, until the inflamatory process and sloughing entirely destroy the pulp and its appendages.

I have said that the diagnosis is not obscure. But one will occasionally fail if not careful.

CASE.

Mr.—— refers to the right upper first and second molars as the seat of tooth-ache. Pain aggravated by cold and water, or drawing over them cold air. These teeth are in close contact from grinding surface to neck. One is plugged on its anterior proximal surface, and the other on its posterior. As plugging did not relieve the pain, the patient returned to his dentist. It was then discovered that these teeth had exposed pulps through cavities on their surfaces of mutual contact.

Treatment.—This may be comprised under the following heads:

Capping the exposed portion.
Excising the exposed portion.
Cauterization of the Pulp.
Cauterization and removal of the Pulp.
Cauterization and removal of the Pulp and its ramifications.

Capping was formerly resorted to by a majority of the profession who attempted any operation but extraction; and is still continued to some extent.

My personal experience in it has been limited, and is unfavorable to the operation.

The results of the practice of others which I have seen, has also confirmed me in the belief of its worthlessness. I have rarely known a living pulp treated in this way that was not often inflamed afterwards. Those teeth that were comfortable had lost their pulp vitality. And yet many that had dead pulps were uncomfortable, having degenerated into the low vitality of alveolar abscess.

Under the most favorable circumstances, capping is of doubtful utility. The only case where it is excusable is in that of a freshly exposed pulp, produced by excavating a cavity of decay. If no blood is drawn there is some chance of success. Place over the exposed pulp, and in *close contact with the opening*, a thin slice of Hill's stopping, lead, tin, or other non-conducting substance, a *little* moistened with creosote, carbolic acid, or tannin. The non conductor, however, should not be of perishable material. It is often recommended and practiced, to *arch* over the exposed pulp. I said a little while since, that inflamed pulps swell and crowd through the opening into the cavity of decay, become strangulated, and die. Therefore, it is much better to cap, so as to keep the pulp in its own home.

In all cases of pulp-treatment a temporary plug should be used, for a longer or shorter time, before plugging permanently.

Excision.—This is a new mode introduced, I think, by Dr. Allport, of Chicago. I believe it consists in scooping out a convex-shaped bit of the exposed pulp, thereby leaving a concavity in that which remains. This bleeds and heals by granulation, and is then capped. Judging by its analogue in general surgery, I should suppose that the concave portion would fill up to its original size. If so, that peculiarity of the operation would be useless. What success has attended this practice I am unable to say. If it should prove worthy of imitation, doubtless the process and its results will be made public through the Dental Journals.

Cauterization.—I hope this practice is discarded even by *laggards* in our profession. "Killing the nerve," and leaving it in the tooth to decompose under a recently introduced plug was at one time very common. At the commencement of my practice, twenty three years ago, it was in vogue. It was expected that two thirds of those thus treated would have alveolar abscess. But as alveolar abscess was sometimes cured, either spontaneously or by art, the risk was often taken by the patient willingly.

Cauterization and removal of the Pulp and its ramifications. This is the most successful and popular method of the day. Many young dentists suppose this to be a *very modern* operation; but by looking over the older dental journals they will see that it was, to some extent, practiced twenty years ago. I remember destroying and removing the pulp and root-vessels, of a right upper first bicuspid, for a lady in 1843. I plugged it with gold at the time. A year ago the tooth needed refilling, having a corner broken by mastication, and it is now in good working order.

It is only within a few years, however, that this operation has become common. It would have been so long ago, had the same fraternal feelings existed in the profession then as now. But dentists in those days were more disposed to keep "a good thing" to themselves, than to communicate it to their brethren.

The per cent. of teeth lost by this treatment is small indeed; some have greater success than others, owing to slight differences in *detail*, but all have such results as to warrant them in attempting to save nearly every tooth presented for treatment.

As an escharotic or devitalizer, arsenic is generally used. Some prefer cobalt; but, as the latter is used in a crude state, its escharotic properties are undoubtedly due to the arsenic with which it is always found in combination in the native ore. I have never employed cobalt, being quite satisfied with the action of pure arsenic. This, triturated with creosote or carbolic acid, together with a little sulphate of tannin, and sulphate of morphia, is the preparation I use. I do not know that the tannin and morphia do any good, but think they may lessen the pain of death.

Formerly, some killed and extirpated with an instrument. Some pretend to now. I pity their patients.

Arsenic, finely divided in creosote or carbolic acid, easily penetrates a very small opening to the pulp, and speedy action ensues. Very little preparation of the cavity is necessary. Removal of food, by an excavator, or warm water from a syringe, is sufficient.

After introducing the escharotic upon a bit of lint the size of a pin head, plug the cavity with a pellet of cotton dipped in sandarac varnish. This will hold the preparation safely, and is much better than wax. A pellet of cotton, thus saturated with sandarac, hardens *under water*, and makes a very good temporary plug for a few days, and even weeks.

Care should be exercised in introducing the arsenic, so as not to get too much, which might thus be forced out on the surrounding tissues. I have known severe peridentitis result from arsenic thus forced up between the gum and tooth.

My practice is to remove the escharotic at the end of twenty-four hours, and also the pulp, if dead; if it is not entirely destroyed, I remove that which can be without pain, and apply arsenic again.

By mistake or negligence of patients, I have had cases where the arsenic was retained one, two, three, or four weeks without apparent injury.

Greater mischief is likely to result from the retention of the dead pulp, than from that of the arsenic.

Arsenic probably rarely acts for a greater distance than the foramina of the roots, and seldom will its first application devitalize more than the pulp contained in the cavity itself.

To destroy the nerves and vessels of the roots, I find a second application necessary, after the removal of the pulp from its cavity.

The arsenious acid has such an affinity for the albumen of the pulp that it unites with it to *satisfaction*, forming an arsenite of albumen. If the pulp is swollen so as to *fill* its cavity, thereby preventing the action of the arsenic only upon the exposed portion of the pulp, the probability is that only that portion will be destroyed. On the other hand, if the pulp is *not* swollen, and there is room for the arsenical preparation to pass through into the pulp cavity, the greater surface which the pulp will then present to the action of the escharotic will insure its speedy death.

I think this accounts for the tardy and imperfect devitalization of the pulp in some cases. It is pretty generally known that the pulp is more effectually destroyed by arsenic, when not inflamed at the time of its application.

In other cases may not the limited action of arsenic be accounted for in this way, namely: the arsenic finds a superabundance of albumen in the pulp with which it is in contact and is easily satisfied; its corrosive action ceases and cannot be renewed until the dead portion of the pulp is removed either by an instrument or by a natural process of sloughing, when a clean surface being presented again to the contact of arsenic, a similar result is again produced. In this way, little by little, we sometimes destroy the pulp. A tedious operation.

When the pulp proper behaves in this way, the root-vessels are likely to do the same, and one is likely to give up the case in that respect. Here is where fine broaches must be used for extracting the living root-vessels, if we are determined to remove them.

The pain produced by destroying the pulp with arsenic does not exceed three hours; sometimes it lasts only half an hour. In only one-third of the cases is any pain produced.

The general impression is that not only the pulp proper, but also its appendages in the root canals should be extirpated before plugging.

When this is done the root canals are plugged as well as the pulp cavity. Some plug the canals with cotton or lint moistened with creosote; others use gold, tin, or Hill's stopping. Some medicate the pulp cavity with creosote, tannin, or iodine, for a few days before. Others plug immediately. Now it is certain that no one can say, with certainty, that this or that is the best method, because we have not the *recorded* experience of different operators to compare and draw our conclusions from.

If those who keep a true and minute record of the treatment of exposed pulps would give those results to the profession through the dental journals, we could learn something of value. Each one will travel his own road until he thinks he has found a better one. Here is mine.

CAUTERIZATION and REMOVAL of the PULP. I do not attempt to destroy the contents of the roots, or remove them. I prefer to let them live.

It is an *easy* practice.

It is a successful practice.

I only speak from my *own* experience. *Theoretically*, I believe in retaining *all* the pulp alive. Practically, I believe in retaining all the pulp and vessels alive which experience will warrant.

My practice is to destroy only the pulp proper, with one or two applications of the arsenical paste. Then remove all the pulp in the cavity, and as much of the canal contents as are dead. Syringe with warm and cold water; fill the cavity with tincture of the sulphate of tannin, and plug with cotton and sandarac varnish for one week. At the expiration of the time plug permanently, if a cheap metal is to be used; if gold is to be the permanent plug, I plug temporarily with tin foil, or Hill's stopping.

If the remaining root vessels are sensitive to cold water, defer plugging until the sensitiveness is cured.

Do the root vessels die after plugging? I think not; as I have found them alive after three months' trial with a temporary plug.

Does alveolar abscess occur after plugging? In some cases, but I think not oftener than where the vessels are extirpated.

Out of seventy cases treated in this manner only two suppurated. One was in consequence of peridentitis following immediately an illness of acute rheumatism lasting two months.

There can be no doubt that the peridentitis was a legitimate result of rheumatism. I did not see the patient until suppuration had taken place. The other case was the suppuration of an under molar.

In both cases the teeth are retained without further discomfort, although the suppuration occurred some months since.

In two other cases there was slight peridentitis, which yielded promptly to mercury.

No case of *extraction* has occurred as a result of pulp-treatment in the last one hundred cases.

Excuse me for seeming egotistical; but I must say that there is *no guess work* in making up the results of my practice. *I record every case*, and keep my record in the following manner.

Take a blank book and rule two open opposite pages for the following heads, each of which, write perpendicularly over its own column, making the columns of a width to correspond with the necessary record.

Date, name, age, sex, temperament, name of tooth, pulp alive, pulp healthy, peridentium healthy, killed with arsenic, destroyed with instrument, arsenic caused pain hours, arsenic applied number of times, days in the tooth, pulp removed days after, root vessels alive, ditto removed, perfectly, medicated cavity with what, days of medication, plugged temporarily, date, plugged permanently, date, peridentitis slight, ditto severe, cured with what, abscess, date, default of patient, extracted. Most of these columns need be only one third of an inch wide.

My record for the treatment of alveolar abscess is ruled in a similar manner, with different headings.

Now I do not wish to influence you to adopt *my* practice; I have only stated it that you may compare it, if you have an opportunity, with that of others, and your own. But I desire you to distrust the statements of any one's practice, which is not made up from a regular *record*.

TEN YEARS IN THE PROFESSION.

BY J. F. SIDDALL.

It is not to boast of my long experience, and consequently wonderful skill, that I present a few thoughts that have suggested themselves to me in taking a retrospect of my experience in dentistry; for ten years is too short a time to do more than *start* a man well in our profession, without giving him much to *ventilate.*

I think there is no greater humbug than that of parading our long experience before the public as sufficient evidence of skill; not that it deceives the people; for they know full well that it takes something more than *age* to make a man in any business.

The professional man whose great recommendation is his long experience, may be greatly comforted as he grows older, and feel he is becoming wiser, but others may *not see it.*

This weakness is by no means confined to the older members of the profession; for it takes some of us but a very short time to have had a very great experience. Young men are proverbially distinguished for their wisdom, however, and young dentists sometimes—*may be.*

However it may be with us as dentists, it certainly is true of us as a profession that the years of experience, and especially the last *ten* years, have been rapidly developing skill and efficiency heretofore unknown.

Ten years ago we had no organizations, but were one chaotic mass, every fellow for himself. Each man had his little chest under lock and key, which was supposed to contain a great deal of something, no one knew just what, nor whom it was designed to bless, unless it should be the man who *kept it.*

The last ten years have been breaking open these private treasuries for the benefit of the profession at large; and the true dentist has thrown away his key, and hung out his latch-string, and inscribed over it, "walk in;" and we find this new arrangement has a two-fold advantage, viz: we impart our good methods and improvements to others and benefit them; and in trying to impart our bad ones, we find out that they are bad, and we are benefitted.

Thus, from the multitude of experiences and practices, sifted and refined, we come to have *recognized modes of practice.* Our social intercourse we thus have is of great advantage. It stimulates us to more earnestness and energy in our work, and makes us feel that we are not alone, that our profession is an honorable and useful one, and that there are honorable and useful men in it; and if we would be worthy of a place in its ranks, we must be active.

No *live* man will be satisfied, after meeting a few times in convention and hearing the discussions, and witnessing our clinics, with plodding along out of the ranks and in the rear; but if possible, will be up with the times, and will do what others are doing, and do it as well.

Our improved methods of treating, filling, and *saving* the teeth we once extracted, and of more thoroughly performing all other operations, (which we most certainly are doing) in connection with the state of our currency, make it necessary to charge for our services what sometimes seems to be extortionary prices. . To avoid this censure and meet the public demand, though oftener, because it "pays" many do cheap work.

This may be justifiable in some cases, but as a general rule is to be condemned. Emerson says, "nothing for nothing;" and so it is the world over, that which costs but little is generally of little value.

To be sure, we may undervalue those low-priced operations, and the man who makes them; but, making all allowance for prejudice, who of us ever knew a first-class operator to work for the lowest prices?

That dentists receive too large a remuneration, if it be true of any class, it certainly is of those who do the poorest work, and especially in the operative department.

I think if any professional man is well compensated, the man who saves teeth should be. It takes much time and close application to acquire the necessary skill; and with this acquired, there are so many things to be considered, and difficulties to be met and overcome in filling teeth, that unless you have the physical ability to *work*, and keep your mind on your work, and control yourself and your patient, you cannot successfully opperate. And then, *no* man, even in full health, should work more than six hours per day at the chair. If he goes much beyond this, he will suffer for it. And as we grow older, or have impaired health, we must be content with doing less. When our muscles begin to fail, our eyes to grow dim, and the right hand to forget its cunning, we can *do* but little, however fully we may possess our mental vigor.

If we were in almost any other occupation, we could endure longer. The farmer, the manufacturer, the merchant, can employ help, and vigorously pursue his calling to a much greater age. Now, I think it but just for the dentist, in establishing his prices, to consider all these matters. And yet there are other interests to be thought of. He must consider charitably the ability of his patients—must strictly apply the golden rule in every case. Before he charges a poor sewing girl, or a mechanic with a large family to support, for one day's work as much as either of them could save in a month, he must inquire: is this just? Is this doing as we would be done by?

Let us consider first, that though our Creator has made us equal in some respects, in others we differ. To some he has given one talent, to others ten; and we are accordingly responsible. In nothing, perhaps, do we differ more than in our ability to accumulate property. One will make his time worth $50 per day, another, equally as intelligent, and as highly respected, may exert himself as much, be just as honest and honorable, *and no more so*, and may save 50 cts. per day. To be sure, men may gain wealth by unfair and dishonorable means, and so may they poverty; for there is probably as much dishonesty among the poor as among the rich, and both alike are culpable.

The man who digs ditches at $2 per day, is just as much bound to be faithful, as he who employs him is, who may make $20 per day out of his contract.

This difference in remuneration, which different occupations bring, everywhere exists, and I think rightfully and wisely.

When the young man steps forth to take his place in the world, he chooses his occupation according to his taste, or what he dare undertake, and succeeds or fails, as he has, or has not the mettle to carry him through. Positions that "pay well" are generally obtained at a risk. "Nothing ventured, nothing won."

To become a good dentist, requires some venture; a man may fail; and if he succeeds, it is not through luck, a rich uncle, or any one's influence; but by his own persistent perseverance. If he gains wealth, it is seldom, if ever, by his profession; and yet he may, with a good practice, gain a competency, and live as well as his neighbors.

Now, in regard to the sewing girl, the mechanic and the class of patients they represent. I think it may often be our duty to work for such as they at a discount; but our own convictions must decide *when* and to *whom* such favors must be bestowed. The merchant has no more reason to expect me to take the case of his hired girl, or poor sister into hand and do work worth $10 or $15, which would cost me one day's time, for what one of them could earn in a day, than I have to expect him to bestow upon my poor friend a piece of goods that may represent one day's time of his, for a like remuneration.

As a general rule, no one has reason to expect that for which they cannot pay the customary price. The poor can get along without teeth much better than without many other things no one expects to see bestowed upon them gratis.

And yet, "the poor ye always have with you, and when ye will ye may do them good." I would, by no means say, aught against any man giving to the poor: for "he that giveth to the poor lendeth to the Lord." Our best friends, and most appreciative, are sometimes poor; and I would advocate a liberal fee-bill, *partly* on their account, that we may thus be *able* to favor them when we choose.

I suppose, to a considerable extent, *custom* determines the fees we should charge; and yet, we have the power and responsibility, to some extent, of fixing our own prices on each operation; and, when we are so disposed, we may be unjust.

No class of men have a better chance to swindle than we; and still we have the golden opportunity of rendering many fold, in real blessing for what we receive.

Since we have become organized throughout the country, we are determining pretty much wholly for ourselves what our customary fees shall be. This, in many respects, is a good thing; for who can judge better than the man who renders a service, what he can afford it for? But it is well for us to remember that we are not sanctified yet; and self interest *may* lead us astray.

Before our organizations existed, we were, to a great degree, at war with each other on prices, as well as concerning other matters; sometimes (I am sorry to say it) working for less than we should, for the sake of taking business away from each other. Now, this evil, as we are becoming acquainted with, and interested in each other, is disappearing; and I have thought that at present there might be danger in the other direction. If our patients, and the public in general, get the impression that we are associating together, to work for our own interests, regardless of theirs, and demand unreasonable fees for our services, it will surely work against us, and only react in favor of those who hold aloof from our organizations, and in favor of quackery in general; and against the passage and enforcement of any law which otherwise would be for the general good.

Therefore, let us take such a course as will keep the *people* in sympathy with our *profession*, rather than with the quacks.

Let us *do* nothing, *say* nothing, *attempt* nothing, in our intercourse with each other, that we would not have our patients fully understand. Let us remember *their* interests as well as our own.

Let us strive to make our operations of the first order; and charge a *reasonable*, and yet an *ample* fee for our services. Always avoiding great extremes in either direction; ever discharging faithfully our obligations to each other, and our profession, ourselves and our patrons.

THE RUBBER COMPANY AND THE AMERICAN DENTAL ASSOCIATION.

Company.—"Gentlemen, we represent the interests of a company recently formed in Boston, that has purchased the rights of the Goodyear Patent Company so far as applied to dentistry, and the Cummings' patent, and wish to have a talk with you."

Association.—"We will listen to any proposition you wish to make."

Co.—"We propose that your profession, throughout the United States, pay us six dollars for the right on each piece of rubber made, this to include under the Goodyear Patent for six years longer, and the Cummings' patent for nine years more."

Ass.—"We will do no such thing. Your claims are unreasonable, and extortionate. 'Millions for defense; but not one cent for tribute.' We will fight you to the bitter end."

Co.—"Do not get excited. We are gentlemen all. But you see we are most amply protected by law. We have the Goodyear patent, fortified by a decision against Dr. Roberts, of New York, and another against Col. Toland, of Cincinnati; and the case in the Cummings' patent against Dr. Wetherbee, of Boston, agent of the Great Protective Union, was decided in our favor. So you see we are mailed from top to toe, and double clad besides."

Ass.—"Is that so?"

Co.—"Most assuredly; and we shall push our claims forthwith in the most energetic manner. But we will not be hard with you; we will let you off easy."

Ass.—"Very well. Suppose you say two dollars and a half for every piece having more than six teeth, and one dollar for each with six or less."

Co.—"We think those rates very cheap indeed, but we will accept them. And further, to convince you of our liberality, we will agree to take only half of what is due us for the first fourteen months; and, to make it still less objectionable at the start we will pay that all back after a while. We only want a little just now for the wife and children."

Ass.—"Well, that is very considerate. We will think of it. Will you protect us in using the rubber, and make all others pay?"

Co.—"We will certainly do so, and put it in the license."

Ass.—"Very well, we accede to your terms for the fifteen years, and will go on harmoniously."

Did not the Association act in the premises without constitutional or other authority? To be sure the Rubber Company kindly tell us the Association "had full power to act"—for the entire profession of course.

If the Profession submits to the extortionate and extraordinary demands agreed to by the Association it should only be when compelled to do so by a decision of the Supreme Court of the United States. OBSERVER.

Proceedings of Societies.

Pursuant to the following call, the gentlemen whose names are herein appended to the Constitution, met in Columbus and organized the *State Dental Society.*

Call.

The entire Dental Profession of the State of Ohio are hereby cordially invited to meet in mass convention, in the City of Columbus, at Naughton's Hall, on Tuesday and Wednesday the 26th and 27th of June, to form a State Dental Society, and to devise and adopt such other measures as tend to elevate and advance the interests of the profession.

Come up, brethren, and let us have such a meeting as our profession has not yet seen. The advantages to be derived from such an organization cannot be over estimated. Other states are organized. Shall Ohio lag behind?

(Signed by fifty-five dentists of the State.)

The meeting was called to order, and Dr. B. Strickland appointed Chairman, and H. A. Smith, Secretary, *pro-tem.*

On motion of Dr. Geo. Watt, the chairman appointed a committee of three, to report a *Constitution* and *By-Laws* for the use of the Society, viz: J. Taft, C. R. Butler and Geo. Watt.

On motion the following gentlemen were appointed a committee to report a Code of Ethics to the society, viz: Drs. Robinson, DeCamp, Keely, Taft and Watt.

At the request of Dr. Horton the call for meeting was read by the Secretary.

Drs. Blount, James, and Beauman were appointed a committee to report nominations for permanent officers of the Society.

The chairman of the committee on Constitution and By-Laws reported the following:

CONSTITUTION.

ARTICLE I.

Name and Object.

Sec. 1. This Association shall be called the *Ohio State Dental Society.*

Sec. 2. Its aim and purposes shall be mutual fellowship and recognition; the promoting of the honor, usefulness and interests of the profession; the advancement and cultivation of professional science and literature; the encouragement of a more thorough professional education, and the protection of the public from the evils of empiricism.

ARTICLE II.

Membership.

Sec. 1. This Society shall be composed of active and honory members, who shall be selected by vote of a majority at any regular meeting, the *Committee on Membership* having previously reported them as eligible.

Sec. 2. Active members must be regular and honorable practitioners of Dentistry in the *State* of *Ohio.*

Sec. 3. Any one eligible to active membership shall not be proposed as an honorary member.

Sec. 4. Any one commencing the practice of dentistry after this date, shall not be eligible to active membership without a Diploma from a Dental College.

Sec. 5. Members, both active and honorary, shall be liable to expulsion for violation of the Constitution or By-laws, gross immorality, or unprofessional conduct, by a majority vote at any regular meeting, provided the committee on Ethics shall have reported in favor of such action at a previous meeting.

ARTICLE III.

Officers.

The officers of this society shall be a *President, two Vice-Presidents, a Corresponding Secretary, a Recording Secretary*, and a *Treasurer*, who shall be elected annually, by a majority ballot, at a regular meeting, and serve till their successors are elected. They shall perform the duties severally assigned to such officers by custom, by parliamentary usage, and the By-laws of this society.

ARTICLE IV.

Standing Committees.

Four standing committees, of three members each, shall be annually appointed by the President, subject to the approval of the society, as follows: an *Executive Committee*, a *Committee on Membership, on Publication*, and on *Dental Ethics.* These shall respectively perform the duties indicated by their names, and designated in the By-laws.

ARTICLE V.

Amendments and By-Laws.

Sec. 1. This Constitution may be altered or amended at any regular meeting by a two-thirds vote, provided, that notice in writing of the proposed change shall have been given at a previous regular meeting.

Sec. 2. By-Laws, in accordance with this Constitution may be adopted by a majority vote, at any regular meeting.

By-Laws.

Sec. 1. This Society shall hold each year an *annual* meeting on the last Tuesday in December, and a *semi-annual* meeting on the first Tuesday in June, at such places as the Society shall from time to time determine.

Sec, 2. When the officers of the Society think it advisable, the President may call a meeting at such time and place as they may have agreed on.

Sec. 3. Twelve active members shall be necessary to constitute a quorum at any meeting.

Sec. 4. In addition to his ordinary duties, the *Corresponding Secretary* shall notify members of the time and place of meetings, and of their appointments on committees, or their assignments to any special duties.

Sec. 5. The *Treasurer* shall report at the annual meeting.

Sec. 6. The *Committee on Membership*, on receiving the names of applicants, shall make due inquiry, or examination, and report to the Society, those whom they regard as worthy, who may then be elected members.

Sec. 7. All complaints against members for violating the Constitution or By-Laws, gross immorality, or unprofessional conduct, shall be presented in writing to the committee on Ethics, who shall proceed to furnish the accused a copy of the complaint, call both him and the accuser before them, examine and decide on the case, and report their decision to the next regular meeting of the Society.

Sec. 8. The *Executive Committee* shall publish an "order of business," previous to each regular meeting, provide a place of meeting &c.

Sec. 9. No one shall enjoy the rights of membership till he has signed the Constitution and By-laws, and paid an admission fee of three dollars.

Sec. 10. Each member shall be subject to an *annual tax* not exceeding *three dollars.*

Sec. 11. Official vacancies may be filled *ad interim* by the President.

Sec. 12. Parlimentary usage shall be regarded as a general guide in the transaction of business.

Sec. 13. Any of these *By-laws* may be suspended by a two-thirds vote at a regular meeting, and may be altered or amended by a similar vote, provided, notice in writing of such alteration shall have been given at a previous meeting.

The report of committee on Constitution was, on motion, accepted. The meeting then proceeded to adopt section by section, and it was then adopted as a whole.

The By-Laws as reported, were then taken up singly and adopted, after first filling blanks in No. 1, by providing for an annual meeting to be held the last Tuesday in December, and a semi-annual meeting on the 1st Tuesday of June. The By-Laws were then on motion adopted entire.

Adjourned.

Afternoon Session.

Meeting convened at 2 o'clock. The minutes of morning session were read and approved.

Motion of Dr. J. Taft passed, "That we now proceed to the organization of the Ohio State Dental Society."

The Constitution and By-Laws were then read to the meeting.

Resolution No. 7.—The following resolution was adopted:

Resolved by this Convention, that any member of the dental profession, now present, who is a graduate of a Dental College or an active member of a local dental association in this state shall be eligible to membership in this Society.

Resolution No. 7 was now read, and the roll of members who had signed the Constitution called, each one announcing his qualification for membership in the society.

The Committee on Nominations appointed at the morning session (informal) were on motion continued. They then reported the following nominees for permanent officers of the Society:

Nominations.

For President, Dr. Geo. Watt, Xenia.
For 1st Vice " " G. W. Keely, Oxford.
For 2d " " " B. F. Robinson, Cleveland.
For Rec. Secretary, " H. A. Smith, Cincinnati.
For Cor. " " A. W. Maxwell, Gallion.
For Treasurer, " M. DeCamp, Mansfield.

Signed,
C. H. James,
A A. Blount, Committee.
J. B. Beauman,

The report was accepted on motion.

The Society then went into an election for officers with the following result:

Officers.

President, Dr. Geo. Watt.
1st Vice " " G. W. Keely.
2d Vice " " B. F. Robinson.
Rec. Secretary " H. A. Smith.
Cor. " " A. W. Maxwell.
Treasurer " M. DeCamp.

The President elect was conducted to the chair, by Drs. Harroun and DeCamp. He then addressed the society briefly, thanking them for the honor of being called to preside over the first meeting of the Society, etc., etc.

The President named the following *Committee on Membership.*

Committee on Membership.—B. T. Spellman, C. H. James, F. H. Rehwinkle.

The President also appointed the following committees, viz:

Committee on Publication.—H. C. Howells, N. W. Williams, S. D. Tuttle.

Committee on Ethics.—B. Strickland, J. Taft, B. F. Robinson.

Executive Committee.—A. A. Blount, C. R. Butler, C. R. Taft.

On motion the committee on Publication was instructed to publish not less than two hundred copies of proceedings of this meeting, together with the Constitution and By-Laws in pamphlet form, for general distribution, and that the Treasurer be authorized to pay the expense of said publication.

The committee on Membership reported the following named gentlemen for membership, viz :

J. Williams, New Philadelphia; E. D. Lord, Belleview; J. McKinley, Wicksville; S. Tolbert, H. C. Howells, Hamilton; C. Bradley, E. Conway, Dayton; C. J. Cady, Delaware; S. P. Harrington, Newark; J. W. Wartman, John Fowler, Columbus; J. E. Robinson, Cleveland; J. W. French, Chillicothe;   Morrison, Steubenville.

Your Committee on Membership report the above names for membership. They have been examined in part by your Committee. The other gentlemen are vouched for by members of the Society.

Signed,
B. T. Spellman, }
F. H. Rehwinkle, } Com.
C. H. James, }

The report was on motion accepted.

A motion was offered that the Society elect such only of the persons recommended by committee on Membership, as are present. *Passed*, after being *amended* by adding that we admit also those to membership who have authorized their names to be presented by a responsible person who is willing to pay initiation fee for them.

The persons named in the report were balloted for and elected members.

Adjourned to meet at 8 o'clock P. M.

Evening Session.

Society met at 8 o'clock. President in the chair. Minutes read and approved.

The Committee on Ethics reported progress. They were on motion, granted further time.

A Committee was appointed to obtain a *reporter*, to report discussions of the Society.

Dr. Taft, Chairman.

The remainder of the evening was taken up in discussing the subject of Dental Ethics.

A motion was passed that the bill recently before the State Senate be taken up and considered by the Society at the first hour in the session to-morrow.

Adjourned.

Wednesday.—Morning Session.

President called the Society to order. The minutes of yesterday evening session were read and approved.

The President appointed a committee of three, viz: Drs. Horton, Beauman and C. R. Taft to make nominations of delegates to the American Dental Association.

The Committee on Code of Dental Ethics reported. The report was, on motion, laid on the table.

The Secretary and Treasurer were, on motion authorized to purchase necessary books, for records at discretion.

The regular order of business for the morning was then taken up, viz: the consideration of Bill legalizing the practice of Dentistry in the State. The Bill was read by the Secretary.

The Committee authorized to secure a reporter, stated that they had suceeded in getting a suitable person. The report of committee was accepted.

Dr. Rhoades offered the following resolution:

Resolved, That each member of the Ohio State Dental Society be constituted a committee of one, to present to the people the importance of the Bill under consideration, being passed and becoming a law, for their and our mutual benefit. Dr. Horton moved to strike out the word "our." Lost. The resolution was then adopted.

The motion instructing the Publication committee to publish 200 copies of Constitution, By-Laws and Proceedings was resinded, and the following resolution adopted in its stead.

Resolved, That Dr. J. Taft be instructed to publish 500 copies of Proceedings of this Society and *Bill* (legal) and send to State legislators and to all members of the profession in the State, who do not take the *Register*, and that the Treasurer be authorized to pay the costs of said publication.

Adjourned to meet at 2 P. M.

Afternoon Session.

President in the chair. Minutes read and approved.

Dr. Taft offered the following, which was adopted.

Resolved, That a committee of five members be appointed to prepare, print, and distribute petitions in favor of the passage of the bill pending before the legislature, to the members of this and other societies, and that all members be requested to circulate them promptly, and energetically, and return them to the chairman for presentation to the legislature.

Dr. J. Taft's bill for sixteen dollars was approved and ordered paid.

The President announced the committee on Petitions, viz: Drs. Taft, James, Maxwell, Strickland, and Blount.

The following offered by Dr. Conway, was adopted.

Resolved, That *we*, the members of the Ohio State Dental Society, pledge themselves to sustain the Ohio Dental College, deeming it a duty we owe the profession, that its honor may be sustained, and that true Dental science may be advanced, and we further resolve that, if need be, we will give our money to sustain said institution.

The present aspect of the rubber question was taken up and fully discussed. By request, the reference to patent (Goodyear's) were not reported for publication.

Bill for use of Hall ($10) was accepted and ordered paid.

The following resolution was read and on motion laid on the table.

Resolved, That a committee of three be appointed to investigate the validity of the patent on vulcanized rubber, as used for dental purposes.

The Executive Committee reported as follows.

Your Committee would respectfully offer the following as the order of business, and subjects for discussion at the next meeting of the society.

1st. Reading of Minutes.
2nd. Report of Standing Committees.
3rd. Treasurer's Report.
4th. Election of Members.
5th. Election of Officers.
6th. Reading of Essays.
7th. Anæsthetics.
8th. Exostosis.
9th. Filling Teeth, Modes and Materials.
10th. Miscellaneous Business.

Your Committee would respectfully recommend to this Society that a committee be appointed to investigate the following subjects, Anæsthetics and Exostosis, and report on the same in writing.

A. A. Blount,
C. R. Butler, } Ex. Com.
C. R. Taft,

This report was on motion accepted, and adopted. The committee to nominate delegates to the American Dental Association reported, that this Society is entitled to eight delegates, and would name the following gentlemen as such delegates: Drs. B. T. Spellman, C. M. Kelsey, E. Conway, B. Strickland, C. S. Cady, H. C. Howells, W. P. Horton, F. H. Rehwinkle.

(Signed.) W. P. Horton, Chairman.

If any of the delegates appointed are not in attendance at the Dental Association, those who may be present, were on motion authorized to fill such vacancies.

The report of committee on Code of Ethics, was then on motion taken up and fully discussed, and afterwards adopted entire.

A motion was carried, that the Code of Ethics, as adopted, be published with the proceedings, etc., as provided for in resolution, No. 3.

On motion it was agreed that this Society adjourn this session at 5 P. M.

On motion the first By-Law was suspended. The Society then by vote agreed to hold the next annual meeting in Columbus, the 3rd Tuesday in January 1867.

By request, Dr. Harroun described his method of taking impressions in cases of cleft palate.

Adjourned at 5 o'clock.

Evening Session.

Society called to order at 8 o'clock. Minutes read and approved.

President Watt announced the appointments of committees as follows:

Committee on Anœsthetics.—H. A. Smith, C. H. James, H. Newington.

Committee on Exostosis.—C. R. Butler, B. Strickland, A. E. Lyman.

Essayists.—J. M. Rhoades, J. Williams, A. Maxwell, and H. C. Howells.

A motion was offered, that the President appoint a committee of three members, to report a *fee-bill* for use of society. Laid on the table.

Dr. Siddall read a paper entitled, "Ten years in the practice of Dentistry," which was, on motion, received, and referred to the Publication committee.

The subject of *Dental Education* was then taken up and fully discussed.

The following resolution was adopted.

Resolved, That no member of the Ohio State Dental Society shall take any man as a student, who is not known to be of good moral character, and possesed of a good education, or for a less term of pupilage than two years, and agrees to take a regular course of lectures in some Dental College.

On motion it was agreed that the next annual meeting continue three days.

A vote of thanks was tendered the Proprietors of Naughton Hall for courtesies to the Society. Adjourned.

H. A. SMITH, *Secretary.*

Editorial.

THE RUBBER QUESTION.

This subject, as most of our readers are aware, is again before them for consideration.

We had hoped that the annoyance and vexation to the profession, in connection with this subject was at an end, with the expiration of the patent two years ago; but in this we were disappointed, a renewal being obtained about eighteen months ago, for seven years. This fact was unknown to nine-tenths of the profession till within a month or two past.

Why it was not long ago brought to the notice of the profession and some amicable arrangement made, we are not advised. Could the ill success of the American Hard Rubber Company with the Dental profession under the former issue of the patent, have had anything to do with it? Why did not the patentee put the matter into operation with the dentists immediately after the renewal? Why did not those who were before so *very successful*, take hold again? They failed to make it profitable. The patentee had to find new parties, or those unacquainted with the former operations, to purchase and enter upon it now. What will be the result, we shall not now attempt to predict; but our experience warrants us in giving expression to the opinion, that it has usually been found rather a difficult matter for a very few men to compel a very large number of their compeers to do that which the latter believe to be wrong and unjust to themselves, especially for any considerable length of time.

With scarcely an exception, the members of the Dental profession do regard the demands of the Dental Vulcanite Company as unjust and oppressive; and the feeling is, resistance, or non-compliance with such demands.

It is very probable, should the Vulcanite Company come upon the profession in detail, that many will yield to their exactions; but if united resistance is made, it is doubtful whether money enough to pay for the getting will be obtained by the company.

Under the American Hard Rubber Company, simply a license fee was charged, that ranged from $10.00 to $100.00, for a license during the existence of that patent, just as the *bargain* could be made. We know of cases where parties were urged to take license for $20.00, to pay a few dollars in hand, and give a note for the balance, payable on as long time as the purchaser might choose; and even with these very accommodating terms, not more than one in twenty of the profession through the West, who used rubber, purchased license; and in no instance, are we aware, that a prosecution was commenced against any member of the profession in the West for infringement, nor even an injunction asked for; and this, notwithstanding the company was bantered and defied to do so in a great number of instances.

We adduce these things to show, as we think, the weakness of the faith of the former parties operating in this matter. But it may be said, they were merciful—did not wish to be harsh with the profession.

Is it probable, that mercy and kindness were the prevailing feeling with the agents of the American Hard Rubber Company, four or five years ago, when they were taunted, defied and almost kicked out, for merely two or three times presenting their cause.

But, we are asked, why is this opposition by the profession to this matter? It would be difficult in a brief space to present all the grounds of this opposition, but we will mention two or three. And, in the first place we will state, that the spirit of opposition to patents and nostrums is almost as old as the profession itself, and it has grown and become stronger as the profession increases in age; so that now, no one can more effectually bring himself under the ban of the profession than by obtaining a patent for something pertaining to our practice, get up a nostrum, or hold a secret. This opposition was engendered and has grown legitimately.

Dentistry is a specialty of medicine, and entertains, and properly so, a common sympathy, spirit and affinity with it.

The practice of medicine, either in general or specialties, is self-sacrificing; in it men sacrifice ease, comfort, and the procurement of money, to any considerable extent, and subject themselves to continual danger; and all that they may relieve human suffering, even by a very battle with death.

We cannot avoid the belief, that the almost universal verdict would be, such men should not be subjected to all the catchpenny operations of an avaricious money-grasping world; that at least they should have immunity from some of those things which those, whose only object in life is to get money practice upon one another.

Were many of those who practice medicine made rich by it, the case might be viewed differently; but, this very course of life precludes the accumulation of property, except in rare cases. We regard it meaner and quite as criminal to defraud the physician, as to rob the beggar.

A wealthy company now own and have control of the Goodyear patent, so far as it applies to dentistry; and also the patent of John A. Cummings, of Boston, for the application of said process to dental purposes. These patents extend, the former over five years from this time, the latter over fifteen years. The dental profession will not quietly submit to be made mere tax-gatherers for this company during this period, and to be called upon to present a corect statement of business, with the names and residences of patients, and other details too tedious to mention. We doubt not the profession would readily consent to a reasonable adjustment of this matter with the company, perhaps rather upon the ground of avoiding annoyance, than an admission of its justness.

PERSONAL AND SELFISH.

A NUMBER of years ago I was impelled to abandon the general practice of medicine and surgery, on account of physical unfitness for the discharge of its duties. Not willing to adopt a course of life that would render my knowledge of medical science unavailing, I turned my attention to the specialty of Dental Surgery, with what success is known to the profession. Unfitted again, for prolonged operations at the chair, it has become necessary either to abandon medical practice altogether, or to adopt another modification. Unwilling to forsake the favorite science of my youthful days, I resolved on the following course:

I have opened an office for the treatment of all the diseases pertaining to or resulting from the derangements of dentition and the dental organs, but do not propose to fill teeth or insert artificial work. Diseases of the antrum, facial neuralgia, chronic alveolar abscess, absorption of the alveolar processes, diseases of the gums, etc., are often an annoyance to either the physician or the dentist, while their proper treatment implies a knowledge of both professions. I also propose, the advice of others corroborating, to use the nitrous oxyd in extracting teeth, and in any operations that require it. In short, the aim will be to make myself useful to both the profession and the public. The use of anæsthetics in ordinary dental offices is attended with so much inconvenience as to render it almost impracticable. When it is made a special business the case is different. No one will question that any thing which takes a patient so far toward the spirit world that he loses consciousness of this one, ought to be in careful, experienced, and educated hands. Hoping to have still the confidence and coöperation of the readers of the REGISTER in my new experiment, I am as ever,

W.

DISPLAY OF TITLES.

EDITOR OF DENTAL REGISTER:—A TITLE appended to a name is ornamental, and so is a kink in a pig's tail. But for the pig to presume on the superiority of its swinehood, on account of the kink, or the man on that of his manhood on account of the title, is not proof of such superiority, but possibly of the reverse. When a man of many titles writes a book, the publisher, no doubt, regards the titles as part and parcel of the capital stock, and displays them accordingly. And even in this least objectionable mode, it appears to me that the matter is often disgustingly overdone.

But look at our professional journals, and at those of the medical profession. Isn't the display pretty strong when we learn on the title-page that the Journal is edited by JOHN HENRY NIGHTINGALE, D. D. S., M. D., A. M., Professor of Physiognomy in the Medical College of Wryface, Member of the Harmonic Society of Froghollow, etc., etc., and learn again at the head of an original article that the said John Nightingale has all these titles, and learn the same astounding facts in the table of contents calling attention to the said article? Of course John Henry has a *right* to use all these titles, and many more, from which it follows that it is none of my business whether he does or not; and from this it follows that I have said enough, and too much, and will, to relieve you of all responsibility, state that this is written by

DOCTOR GEORGE WATT, M. D., D. D. S., Professor of Chemistry and Therapeutics in the Ohio College of Dental Surgery.

LECTURER ON NATURAL SCIENCES IN THE UNION FEMALE SEMINARY OF XENIA, OHIO.

MEMBER OF THE MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

MEMBER OF THE OHIO DENTAL COLLEGE ASSOCIATION.

PRESIDENT OF THE OHIO STATE DENTAL SOCIETY.

SECOND PRESIDENT OF THE AMERICAN DENTAL ASSOCIATION.

FIRST PRESIDENT OF THE MAD RIVER VALLEY DENTAL SOCIETY.

CORRESPONDING MEMBER OF THE ODONTOGRAPHIC SOCIETY OF PENNSYLVANIA.

⁂ Honorary Member of the Young America Base-ball Club, Late Champion of the Cross-Roads Spelling School, etc., etc., etc., etc. SHOO!

A USELESS DISPUTE SETTLED.

THE question of veracity, or "apprehension," between the "J. H. McQ." editor of the "Cosmos" and myself, came to a happy termination at the Boston meeting, by his cordially informing me that the official phonographic report confirmed my statements. I hoped he would state the same in the "Cosmos;" but as several numbers have appeared since, I suppose he has forgotten it. The readers of the "Register" have a right to know that I do not state for *fact* that which is only supposition, and hence this notice. W.

THE OHIO DENTISTS AND THE GOODYEAR DENTAL VULCANITE COMPANY.

THE Ohio State Dental Society held a called meeting in Columbus, Nov. 1st, to consult in reference to the claims of the Goodyear Dental Vulcanite Company. Dentists present who were not members of the society, were invited to participate in the discussions and proceedings. After hearing the report and opinions of the attorney employed in the case, and after a very free exchange of opinion, it was unanimously agreed not to accede to the present demands of the Goodyear Dental Vulcanite Company.

MASSACHUSETTS DENTAL SOCIETY.

THE regular monthly meeting of the Massachusetts Dental Society was held at their rooms, Tremont Temple, last evening, President N. C. Keep, M. D., in the chair, with a full attendance of the members.

The regular Essayist, Dr. I. A. Salmon, read a paper on "Conservative Dentistry." Volunteer papers were read by A. Lawrence, D. D. S., of Lowell, and by Dr. D. G. Harrington, of South Boston.

THE

DENTAL REGISTER.

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Original Communications.

LADY HYDROGEN.

Introductory to a course of lectures on Chemistry in the Ohio College of Dental Surgery.

BY GEORGE WATT.

"Which of you, intending to build a tower, sitteth not down first, and counteth the cost?"

About attempting to build the superstructure of professional character on the foundation of professional attainments, may we not spend this hour in counting the cost? A high tower we propose to build; and great in proportion will be the cost. And he who is not willing to incur the necessary expense had best not attempt the superstructure; for only failure would result, "and all that behold it will begin to mock him, saying, this man began to build, and was not able to finish."

In view of the magnitude of the science to which I am expected to introduce you; in view of the great depths of ignorance into which we are all fallen; in view of the great heights to which we must climb to gain even a Pisgah view of the promised land of science; in view of the fact that my efforts to guide you will be far too much like the blind leading the blind; in view of the days and nights of mental toil and study in the months before us, it would be but human nature to spend this, the first hour of our acquaintance, in relaxation, if not in absolute rest. But shall we so spend it? Shall we not rather, with the aim of moving "immediately on the works," devote it to a review of our forces, and an inspection of the work that is before us?

But the scope of that science to which we are assigned is too vast for immediate consideration—too expansive for the survey of a single hour. It extends down to the foundations of the earth, and reaches up to Heaven. It includes all of earth, and air, and water, and meteors, and planets, and satellites, and comets, and stars, and suns. All material substances are subject to its laws; and the study of them is but the study of it.

Shall we, then, abandon the building of the intended tower? Having put our hands to the plow shall we look back? As soldiers marching against the battlements of ignorance, shall we desert our colors? No! but let us inure ourselves to the war by a gentle skirmish, before the grand battle begins. Let us spend this hour in the way of introducing ourselves to each other, and to our work. Like children "playing school," let us merely "make believe" that this is a lecture and you are students.

Then, of all the material universe, let us select, for present consideration, just one element. And, that our labor may not appear heavy, let us take that one which is the lightest and least tangible, the pliant, volatile, invisible, combustible little hydrogen.

Hydrogen! what inquiries crowd upon us with the very name! What is it? Where is it found? What is it like? What is it good for? and a score of others. Patience, my friends, let us consider.

Far away back in the long-ago, before "the morning-stars sang together," "or ever were formed the earth and the world," in the distant past, when "he spake and it was done," God said, "Let there be" and "there was" an element, which from the regal character bestowed on it by its Creator, not inaptly has been called "Lord Oxygen." And because it was not good for this lordly element to be alone, his Creator saw fit to provide "a help meet for him," and the beautiful hydrogen sprang up by his side, and their marriage was sealed by the lightning's flash, and announced by the thunder's roar; and, accordingly, we are told, in the family record of creation, that "darkness was upon the face of the *deep*, and the Spirit of God moved upon the face of the *waters*." Ye who worship at the shrine of antiquity, and bow in reverence to "first families," here is something worthy of your devotions. Here is the first recorded instance of definite chemical combination—the first marriage of elements. And so true have they been to each other, so close the tie of affection, so perfect the union, that for thousands of years, they were regarded by the whole human race, as "no more twain, but one" element.

What, then, is hydrogen? It is the lightest and most ethereal of all known substances. Too light to float the gossamer, or sustain the play of the zephyr's wing, too rare for the breath of the tiny insect, too diffused to carry the rose's perfume—a wonderful something which you can neither see, hear, feel, taste, or smell.

But where is it? Or, a simpler question, where is it not? It is above us, beneath us, around us, in us, of us. Go ask the forests the secrets of their growth, and they will tell you they have been watered and nurtured by the good Lady Hydrogen. Ask the flowers the source of their fragrance, and they will report it as a goodly present from the bride of Lord Oxygen. Admire their brilliant hues, and they will refer them to the artist hand of the same benefactress. Gaze at the rainbow, and you see but her pencilings. See her as she sparkles in the dewdrop, glitters in the rain, or glistens in the icicle. Admire her gentleness and purity, as she descends in the snowflake. Behold her majesty and grandeur, when the ocean is lashed to madness by the fury of the storm

Look at her stateliness in the floating iceberg, at her beauty in the shining frost crystal, at her tenderness in the falling tear. Explore the wildest, deepest, most remote recesses of nature, and you will find her in advance of you, beautifying, building up, and sustaining. Everything that lives is sustained by her; and deprived of her genial presence, would pine and die. And though practically almost omnipresent, yet she is never impertinent—never intrudes—neither meddles nor gossips. By her quiet presence, she manifests her willingness to serve those who need her sympathies. Though true to her first love, and faithful to her marriage vows, yet she willingly coöperates with the humblest member of the family of elements, if so she can be useful. Indeed, so modest and retiring is she that her presence is not suspected, even by those she blesses. "Many daughters have done virtuously," but she excels them all.

Such brilliance, and gentleness, and purity, and grandeur, and tenderness, and beauty, may well claim our attention and admiration for this hour. Shall we grow sentimental over the historic beauty of Helen, or ecstatic before the image of Venus, and not be filled with rapture in the presence of her who is unrivalled in beauty, and as pure as the angels, the beautiful bride of Lord Oxygen?

Would that I could but show you her portrait, but she shrinks from display. Like the timid maiden of the East, she refuses to unveil. Like the modest wife, she is content that "her husband is known in the gates, when he sitteth among the" elements. She is like the silent benefactor—"she stretcheth out her hands to the poor, yea, she reacheth forth her hands to the needy." She is like purity itself. The touch of filth does not defile her; nor can the breath of slander defame her. And though her beauty and loveliness may sometimes prove her misfortune, and those chemical bandits, sulphur, chlorine, and phosphorus, may kidnap and carry her off, they find a constancy they can not overcome, charms not for them; and, instead of the pleasures they expected to enjoy in her constrained presence, all is acrid and sour; and when her lordly husband comes to her rescue, and consumes these robbers with the breath of his mouth, spotless and undefiled, his own well beloved flies to his embrace, and "the heart of her husband doth safely trust in her."

But the gentleness, brilliance, stateliness, grandeur, and beauty of this wonderful lady element are all as nothing when compared with her goodness. While others bestow favors for applause, she blesses for the sake of blessing. So gentle, airy, and light, we would expect her to play with the gossamer, or romp with the butterfly, or to soar away up above the clouds, and sport in the blue ether, among the stars and comets. But had she the strength of iron, the gravity of lead, and the caustic energy of chlorine combined, she could not undertake or accomplish more than she does. Her power is wonderful, and, like the true lady, she rules only by love; and so gentle is her sway that her subjects are her willing slaves, and are all unconscious of their servitude. And even her lordly husband, with all his energies and passions, is overcome by her affection, and in her embraces he is as gentle as a lamb. Alone, the leaves of the forest wither in the blast of his breath, and nature is defaced by his blighting touch. Soothed by her smiles, he waters the earth, and covers it with its carpet of grass, while the forest is clothed with leaves and flowers, and all nature puts on her holiday garb. Alone, he burns cities to ashes, or crumbles them to dust. Captivated by her gentle sway, he toils like a slave to extinguish the conflagration. Alone, he breaks our ships with his east wind. With her influence and aid, he bears them up, and floats them to the desired havens. Alone, he forges the thunderbolts of war, and hurls them forth on their errands of death. With her, he quenches the thirst of the wounded and dying, and cools the parched lips and fevered brows of the hospitals' inmates. Alone, he devours the widow's bread, and destroys the fruits of the ground to create the demon-drink that fills the world with crime, and changes men to devils. Blest with her genial presence, he furnishes the clear, cool water, which entails only blessings on those who drink it. In many of his grandest and best achievements, he would be utterly powerless, without her presence and her aid. Let us think of this.

"In the day that God created" these wonderful elements, positive and negative "created He them, and blessed them and called their name WATER, in the day when they were created." Life sustaining, health giving water! The drink that a God of love has distilled for all his children! The liquor that strengthens, refreshes, revives, invigorates, and purifies. The beverage which has no orphan's tear as its sequel, nor widow's wail as a requiem over its fallen victim. A drink that demons do not delight in. The murderer does not imbibe it to prepare him for his crime, nor the reveller as a prelude to his midnight debauch. No ghosts of murdered innocents awake from their slumbers to curse the cup that contains it, or the fountain that gushes it forth. Dethroned reason does not curse and babble under its influence; nor does delirium travel in its wake. The lone prisoner does not accuse it of the crime that has brought him to the dungeon-cell; nor does the felon on the scaffold, curse "the moss-covered bucket" for his untimely end. Prisons and almshouses do not overflow with its victims; nor are courts of justice kept busy with its crimes.

No! our Lady Hydrogen and her liege lord, are, in combined labors of love, far otherwise engaged. Like their divine Creator, they go about doing good. They are his agents in preparing rain, and making grass to grow upon the mountains. By them he visits the earth and waters it, and enriches it with the river of God. They are the messengers by which he sends the mollifying shower and the refreshing dew. Out of them is formed the storm-cloud and the rivers, and the seas and the ocean. Nor are they easily baffled in their benign efforts. They impart power to the majestic steamer, and it stems the river's current, and rides the angry billows.

Nor is any work too servile for them, if only it be useful. They turn the mill-wheel and the spindle, and draw the produce of the farmer to the distant market, and return laden with the wares of merchandise. They float the mariner's stately ship, and the red man's bark canoe. They wash the poisonous malaria from the atmosphere, and the filth from the surface of the earth, to impart health and prolong life. They never weary in well doing, but sustain and bless everything that lives, and without their presence, life is impossible.

And with all their usefulness, they do not forget to be ornamental, nor, while supplying necessities, do they ignore luxuries. They humor all our tastes, and gratify all our senses. They cool the fevered brow, moisten the parched lips, and quench our burning thirst. And how they charm our sight. By the north wind's aid, they show us the hoar-frost, the ice-crystal, and the snow-flake. By the help of the vernal breezes, they paint the flowers, bedeck the forest, and cover the earth with its carpet of green. They hold up the storm-cloud as a back-ground to the rainbow of promise. They furnish "a way for the lightning of thunder," and thus display to us its grandeur. They hang up, as a curtain, the fleecy cloud, and adorn the sunset with its crimson veil. They take up and bear to us the fragrance of the flowers, as sweet as the perfumes of Araby the blest. And who has not listened with rapture to their music?

"What a joy to press the pillow
Of a cottage chamber bed,
And to listen to the patter
Of the soft rain overhead!"

Who has heard, elsewhere, such music

"As that melody of nature—
That subdued, subduing strain,
Which is played upon the shingles,
By the patter of the rain?"

And the purling brook, and the warbling rill—whose childhood has not been delighted with their melodies? And the merry cascade

> " * * as it gushes,
> Like a flow of laughter, out—"

Who has not felt the power, but who can describe the sweetness of its strain?"

Thus does our Lady Hydrogen, like a true and faithfu wife, coöperate with her lordly husband. His glory is hers and her proudest thought is of her relationship to him. He is king among the elements, she his early-loved, and acknowledged queen.

But, though her delight is to assist and coöperate with him; yet when duty calls him from her side, she is neither despondent nor idle. If he kindles a fire for our comfort, she contributes to the fuel. Just think of her going down into the dark caverns of the earth ages ago, and there embracing her dark-eyed brother carbon, that she might bring him up, at the proper time, to furnish us the heat and light whose comfort and cheer enable us to spend this hour together, and, thus thinking, you can appreciate a little of her self-denial. And, though not able to rule the other elements, like her royal husband, yet she often accomplishes as much by management as he does by force. Is that refractory element, gold to be subdued? she coaxes the bandit chlorine into her service, guides him to the culprit, and, during the contest that ensues, returns to the side of her lord. Does chlorine refuse to surrender the captive to the demand of lawful authority? She forms an alliance with sulphur, another of the banditti, who, over-coming his late comrade, carries off the prisoner, but abandons him to freedom, through fright at the heated anger of Lord Oxygen. Is the benighted and bewildered traveller to be warned against fatal bogs and morasses which lie in his pathway? she plunges into the mire in search of her fiery brother Phosphorus, and, with loving embrace, lures him to the surface, and, in the light of a beacon flash rejoins her Lord.

But what shall I say more? The time would fail me to tell of her marvellous works, and her benificent deeds. She is a wonderful work of a more wonderful Creator. If this is but a passing glance at one of the elements he has made, how extensive the study of them all! If this is the lightest and rarest of all, yet possessed of properties wider than the range of our thoughts, and beyond the reach of our comprehension, how vast the field of science which includes the properties of all of them!

Are you, then, discouraged at the prospect? Do your hearts fail you? Take courage, my friends! The voyage of the world is a long one—possibly too long for your strength and means—but is that any reason you should not enjoy a pleasure-walk? There are foreign countries you would like to see. Deprived of visiting them, must you fail to call on your friends in the next village? The greatest charm of the science we propose to study, is its almost infinite extent. It will last us for life; and I hope it will last us for eternity, and that we will all study it in the same class. But, while it is not possible for you to get through with the study of chemistry in your college course which now commences, it is quite practicable for you to acquire such a knowledge of its principles as will make all future study of it a pleasure rather than a toil, and such as will enable you to apply many of these principles to the wants of the profession to which you aspire.

In the months that we are to be together, it will not only be my official duty, but also my special pleasure, to aid you in the study of this science. It is regarded as a dry subject, but you will not find it so, if you endeavor to understand it. In the name of the faculty, I welcome you to our halls.

EXTRACTING TEETH.

BY P. C. BRANCH, VINTON, IOWA.

Read before the Iowa State Dental Society, July, 1868.

Very little need be said of the deciduous teeth, experience having settled the question, and decided against extracting them at any time before their successors make their appearance, when any fragments remaining unabsorbed may be too easily removed to demand any description of the operation.

It has been said, "to cook a rabbit, first *catch* him;" so, to extract a tooth, first find a tooth so hopelessly diseased as to be incurable and intolerable. When you find one, or a dozen such teeth in a patient's mouth, each one, and all of them, demand immediately, to be extracted.

If an examination reveals one or more exposed and inflamed pulps, or in any condition not absolutely hopeless, while the adjoining and antagonizing teeth are, for the greater part, in a good, or salvable condition, it is evidently *not* the *dentist's* duty to extract. The root, or roots of a bicuspid or molar, if firm in their sockets, and giving no trouble to the wearer, may be wisely let alone, unless an artificial substitute is to be inserted, or the operator is in want of a fee.

The gradual absorption of such roots, and the filling up of the sockets, keeping pace with each other, produce considerably less wasting of the alveolar ridge, and loss of support, to remaining teeth, than is sure to follow their sudden and violent removal.

A condition of acute, and increasing periosteal inflammation, seems unfavorable to extracting; which frequently fails to give relief, and sometimes appears to aggravate the symptoms, and increase the patient's sufferings.

A case of this kind, under the care of a physician, came under the writer's observation. The physician removed the offending tooth, and, at the same time some necrosed roots The operation was followed by an immediate increase and extension of the inflammation, and resulted in the destruction and exfoliation of nearly one half of the lower jaw, and, of course, considerable deformity of the face. The writer would generally defer the operation, until resolution, or suppuration, assures him that the crisis is past. Then the parts are certain to heal kindly.

The practice of removing sound, or salvable teeth, to give place to artificial ones, because there may be but few, or because they are irregular—homely—and *pretty teeth* are desired, cannot be too strongly condemned.

The true dentist, is a *true* artist; and a true artist, venerates Nature, only less than he does the God of Nature. He sees fitness and beauty in her handiwork, and only when *disturbing* forces have *distorted* what *would* have been beautiful, will he dare substitute the productions of art?

If but one sound natural tooth remains in its natural position firmly, the gums adhering well to its neck, or, if there be several such, scattered about the mouth, one in a place, they ought not to be extracted. The resources of dental skill, are, or ought to be, equal to their preservation, and the supply of what has been lost. It is true that the pressure of a plate has a *tendency* to produce absorption of their sockets and gums; but if proper care be exercised to prevent the plate from touching the natural teeth, and, if the bearings be made lightest in their immediate vicinity, that dreaded result will be quite remote, if indeed it comes at all. Besides, the time is gone by for us to talk about making *permanent* sets of teeth. Let our patrons be made to see that the durability of our work depends almost as much upon their care, as upon our skill and faithfulness; and *permanency*, will be more nearly secured than in any other way.

Not unfrequently a man sits down in our chairs, saying, "I want you to pull a tooth for me." An examination satisfies the operator that it may and ought to be saved. But argument, explanation and proof are lost upon him. He has come to have a tooth pulled, and he will not be "humbugged" into anything else. Justice to a numbscull may urge a compliance with his demand; but a higher allegiance to science and art, requires us to refuse obedience to the dictation of a block-head, and to send him where ignorance and cupidity have fashioned already the "tooth-puller" for such as he.

Humanity should stimulate us to do all within our power to alleviate the sufferings of the poor, but intelligent patient, and suggests, that resort to extracting should not be had, until the organ can no longer be tolerated. Such a conservative course often gives the patient an opportunity, under more prosperous circumstances, to save what would, otherwise, have been irrecoverably lost, and always serves to impress the minds of that very worthy class of people, with the value and importance of their teeth, and our profession.

There remain to be considered the mode of extracting, including, perhaps, the instruments to be used.

A hasty retrospect of twenty years practice strongly inclines the writer to lay down the pen, and abandon his task in despair; for how shall one describe operations almost infinite in variety, and, after long experience, still presenting new difficulties to be surmounted?

The instruments are lancets, forceps, and elevators. The lancet should be of three patterns: No. 1, nearly straight; No. 2, curves about half of one inch from its point, so as to cut, partly behind an adjoining tooth, and by the side of the one to be removed; No. 3, should be bent at a right angle with, and made to cut *transversely* to the line formed by its shank and handle.

This last is used to sever the gum from the saucer-shaped depression, upon the approximal surfaces of the molars. At that point, the gum is capable of resisting more force than can be safely applied, for the removal of a tooth whose crown is greatly weakened by decay; and, the thorough use of this instrument will frequently save operator and patient the mortification and misery of a failure.

The roots of the ten anterior teeth are often held very firmly in their sockets, while the hold for their removal is extremely slight. Here lancet No. 1, comes right to the hand. After loosening the gum, force its point between the root and the alveolars, two to four times, at as many, and *opposite* sides of the former, and the latter will be so loosened from its bony attachments as to be comparatively easily removed.

The gum that overlies and contracts, upon the edges of a root, should be severed by a slit on the labial or buccal side, in the direction of its apex, as far as an instrument is to be introduced for its removal. If forceps are to be used, it may be necessary to make a similar slit on the lingual side, and when it becomes necessary to grasp and cut through the alveolus, there should be short transverse cuts, at the extremeties of those just described. The little flaps thus formed being separated from the alveolus, and sufficient room secured for getting a firm hold, no great difficulty will be met in completing the operation.

While it is true that a great many teeth should be extracted without the lancet, it is equally true that in large numbers of cases it performs a humane, and almost indispensable work.

It is absolutely necessary that the beaks of forceps be well fitted to the teeth they are to extract, strong enough, and so tempered as not to spring or break, with the handles fitting the right hand, and arranged so that the operator can control the patient's head with his left arm and hand. But all unnecessary twists and crooks may be wisely dispensed with.

The elevators are invaluable for extracting roots. The writer uses these forms: No. 1, is simply a strong octagon handled steel excavator, straight, with a slight sharp "hoe-point," and is used to extract the upper anterior roots. The instrument is passed between the gums and root, with the "hoe" edge toward the latter, the handle grasped firmly with the fingers and palm of the hand, the end of the flexed thumb resting against the cutting edge of an adjoining tooth, or the alveolus. When pressed against the root, the "hoe" cuts its own hold, and the extension of the thumb, and the contraction of the fingers, brings away the root.

No. 2, differs from No. 1, only in its point, which is stronger and slightly curved. When held in the right hand, with the thumb extended to the left, the cut will be downward, and toward the operator. Like No. 1, it cuts its own hold, (it may be used upon almost any root in the mouth,) and the root is removed entirely by the contraction of the hand, with the thumb resting upon some safe point in the patient's mouth.

No. 3, is an enlargement and modification of No. 1. Its hoe edge may be slightly serrated to prevent slipping, and bent at a right angle with the shank, one fourth of an inch from the edge.

It may be used to advantage upon the roots of molars and bicuspids. The hold is secured upon the lingual side, the flexed thumb rests against the buceal side of an adjoining tooth, and the root is lifted and rolled out toward the cheek, entirely by *hand* power.

An important condition to success is that the patient's head, and (when that is the seat of the operation) the lower jaw, be held as nearly immovable as possible, for it is plain that every motion produces a loss, if not a dangerous misdirection of force.

After all that has been or might be said, it seems impossible to reduce extracting teeth to a "system." It is far more like an unceasing resort to expedients, reluctantly resorted to by practitioner and patient.

From so disagreeable a duty let us pray, "Good Lord deliver us."

COMPENSATION.

All the forces and events of the universe are unmistakably regulated by the law of distributive justice. Since the Morphological conception of the universe, the doctrine of evolution has taken the place of the notion of a mechanical creation, and the late discoveries in the world of science, have shown that *forces* are correlative and equivalent—e. g. given—so much heat, an equivalent amount of motion, light, electricity or magnetism may be evolved from it.

The idea of the correlation and equivalence of forces, is the inductive manner of stating that an eternal law of justice rules in the physical, mental and moral worlds. The late experiments in science establish a correlation and equivalence between forces. Thus, the fall of 772 lbs. through one foot raises one pound of water one degree Fahrenheit. The proved relation in amount between the affinities of combining bodies, and the heat evolved during their combination, the quantitative connection between chemical action and voltaic electricity, already established—the experiments of Faraday implying that a specific measure of electricity is disengaged by a given measure of chemical action—the demonstrated equivalence between the amount of heat generated and water converted into steam—the known expansion of steam under the influence of each additional degree of heat, all render it certain that among the various forms of force the quantitative relations are fixed.

And hence the fall of the sunbeams on the earth finds its correlative and equivalent in the rise of vapor and the consequent fall of the snows, rains and rivers to the earth and into the sea.

The silent rush of the planets through the heavens, is but the transformed molecular motion of the original photosphere of the sun. The world of forces obeys the laws of addition, subtraction, multiplication and division; and mind itself is a force, or rather the aboriginal source of all forces. Grant a

God—an eternal, infinite mind—and this correlation and equivalence of forces is but the outer physical *ensemble* of the inherent laws of Divine reason—of eternal retributive justice. This law holds between physical and vital, and vital and mental forces. The more mind a man exhibits, the more blood he burns up or exhausts; and the more blood he exhausts, the more food, heat and air he requires. And it holds also between the individual and society—between man and men. This law secures that we get from our fellows what we pay for, no more, no less. It secures that the quack shall be quacked at last, and the longer the credit given, the heavier the interest which will be ultimately required. If he seems to triumph for a time, it is only that his falsehood may lift him to the verge of his ambition in order to secure his more complete ruin when he falls. And, then, his social ruin reduces him to his true level from which he can, if he will, rise to a more elevated station among his fellows. To illustrate: The dentist if he be merely an artist—merely a worker in *contraband* rubber and mineral teeth—a modern Tubal Cain, and not also a teacher of his patient—instructing how to save teeth from decay, may get his full compensation in dollars for his artifice, but he will not command that utter trust, that moral confidence, that sublime fraternity which is the true compensation for the work of the soul. There is a higher form of this law of compensation than that which for a certain expenditure of professional skill, shall fill one's tills with money.

All exist for moral, as well as for pecuniary benefits, else they are not men.

The professions become grand, sacred, blessed, in just the ratio of their actual power to benefit the world. There is something of a practical immorality in the present relations of the professions to the people. The physician thrives on sickness, the lawyer on quarrels, and the dentist on decayed teeth. "Let these professions teach the people how to *preserve* health, to *avoid* difficulty, and to *prevent* the decay of the teeth, perfectly, and our business would be destroyed, I hear you say. Very well, which is first and paramount, man, or his diseases and the consequent wealth of the professions? Does man exist merely that doctors, lawyers and dentists may thrive? Or do the professions arise to save, to preserve and elevate man? If one affirm the first, all moral dignity and worth depart the professions. But if the second be affirmed, all the professions become the physical and moral regenerators of society—the grandest moral element enters into their career and function, and the compensation for such professional service, is a gradually regenerated, beautified, lofty-minded society. Let the people pay us to teach them how to save themselves from the ills incident to a perverted civilization, and we are at once in harmony with all the great interests of mankind, and the moral laws of God. The compensation for such relationship is measureless happiness and blessedness.

Now it is the financial interest of the physician to have everybody sick, of the lawyer to have everybody in a quarrel, and of the dentist that the peoples' teeth may rapidly decay. Add the moral law of compensation and nobody likes the members of either profession named. The people look upon us as "necessary evils."

At once, let us shift our relations, so that we become principally teachers, and incidentally only manipulators, &c., and while the long continued sins of our ancestors will secure us plenty of patients for some generations to come, we shall yet lay the foundation for a broader and higher professional character, at once consistent with all the laws and interests of man and of society.

Nor is this all since the moral and spiritual laws are primordial, and obedience to them secures the highest possible inspiration to genius, talent and intellect. "Talent invariably sinks with character," it must therefore rise with character. Elevate the professions into harmony with the primordial code of nature, which recognizes exact compensation for every act or failure to act—for every mental effort and aspiration for the highest good, and our professional ranks will be ablaze with genius, with talent and new discoveries. New ideas, a new society will arise upon the world. Great aims alone can quicken genius, and attract it into the centre of social power.

"Moreover, a moral compensation reacheth to the secrecy of thought;
For if thou wilt think evil of thy neighbor, soon shalt thou have him for thy foe:
And yet he may know nothing of the cause that maketh thee distasteful to his soul—
The cause of unkind suspicion, for which thou hast thy punishment:
And if thou think of him in charity, wishing or praying for his weal,
He shall not guess the secret charm that lured his soul to love thee."

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VALEDICTORY ADDRESS.

BY H. J. M'KELLOPS, D. D. S.

Retiring President of the Missouri Dental Association.

Gentlemen:—In retiring from the honorable position to which I have been elevated by my colleagues of the Missouri Dental Association, I feel it a pleasing duty to address you a few words in reference to the position, advancement and progress of Dentistry in its relation to the social scale.

In an address of this kind, I do not propose to make it an opportunity of saying anything new, but to offer some general remarks upon the relation that Dentistry holds to society at large, in order that we may the more clearly appreciate the character and extent of that useful mission in which we have all embarked.

A few years ago, and within the memory of many of us, the science of Dentistry was wholly unknown; and it occupied neither position nor status in the world of medical progress, and was considered a mere appendage of questionable value in the life of the professional man. Since then, step by step, it has advanced, gathering strength by every movement, until now it justly claims a position ennobled by the practical applications and vivifying influences of those who have labored for its advancement.

Much has been done and much more remains to be accomplished, before our art shall have reached that degree of perfection which awaits patient and progressive research in the unexplored fields of experimental philosophy. To discharge conscientiously the implied contract entered into with our patients, to effect the most perfect specimen of our handicraft, is nothing more than is expected in *every* commercial transaction. If nothing more than this were done, Dentistry would hardly rise above the level of the numerous trades and callings of life. But it has gained an honorable position in the profession of medicine and surgery, by the aid of those illustrious men who have devoted energy, industry, and perseverance to its development as a science.

It should be our aim and ambition, then, to perfect the possession of that inheritance which the genius, the philanthropy and the devoted industry of others have accumulated, and not content ourselves with merely performing a piece of artistic workmanship.

It should be a special object of the members of this society to still further augment the sphere of its usefulness, and by acquiring an intimate knowledge of physical and biological science which truly belongs to the domain of odontologic art.

It is the study and application of the laws and principles that govern matter, and the influences they exert upon the vital organism, that marks the advancement of medicine as a science, and which equally pertains to the department of dentistry, a distinctive branch of the profession. If we begin to study the phenomena and laws of life in man, we shall soon be irresistibly attracted to extend our observations to the successive orders of creation, and so on down to the lowest type of animated matter. As we advance in this study, the beauty, harmony, and correlation of organic and inorganic forces open up to our vision. We see the adaptation of those mysterious principles in the vegetable and mineral kingdoms, so potent in the consulting room and laboratory, and the knowledge of each plant or mineral becomes more perfectly understood by the multiplying beams of intelligence reflected at every step.

As lovers of our art, then, let it be our chief pleasure to elevate it, year by year, until it shall have occupied a position prominent among the most dignified specialties in the medical profession. This is to be effected, not merely by the aid of mechanical skill in remedying deformity, and relieving suffering, but in applying the principles of biology and physical science to the prevention of disease, the preservation of the teeth, rather than their destruction by mechanical agents.

Our object should be to comprehend the effort that nature is making in combatting the adverse influences under which she is laboring. Let us seek to aid her in the conflict, observing and following her laws, that we may minister to her short-comings. If we deviate from this path; if, losing sight of the beacon of observation, we chase the *ignis fatuus* of speculation, we shall just so surely miss our aim, and fail to benefit our patient. He who would minister to nature must learn to interpret her. It is by the exercise of this prerogative that the educated and accomplished Dentist excels the mere mechanic, whose chief merit consists not in preserving the teeth, but in making close imitations.

Besides the channels of investigation just pointed out, the successful practitioner of dentistry is required, not only to understand the anatomical construction of the teeth, and whatever pertains to their growth, position and relation to other parts of the mouth, but he should continue his research into what constitutes the domain of Physiology—a research which carries its investigations in quest of analogies and illustrations into the widest latitudes of the animal and vegetable kingdoms, as well as into the most minute inspection of the structures, the functions, and the attributes of their several productions.

In the practice of Dental Surgery a profound knowledge of the anatomy of all parts contained within the buccal cavity, is absolutely necessary to success. Anatomy is also the foundation of the diagnosis of diseases that fall under the observation and treatment of the dentist. It demonstrates the normal condition of structures in health, and supplies the means of comparison in the study of dental pathology. Neither anatomy, nor any power of ocular investigation, however accurate it may be conducted can enable the dentist to obtain a correct knowledge of the constituent formations of the teeth and modifications they undergo in their alveoli. These things must be learned through the aid of a microscope, and this adds another auxiliary branch of investigation to the perfection of Dentistry as a science.

The art of Dentistry, then, comprehends a perfect knowledge of Anatomy, Physiology, Pathology, the continual use of the microscope, and an understanding of the laws and principles that pertain to biological and physical science. Let each one of us learn as much of them as we can, always bearing in mind the great object for which they are studied, and never neglecting the purpose to which they are to be applied. We should remember that dentistry, as a science, was founded and raised upon the natural sciences. All that it is beyond a mere empirical art, it owes to its dependence upon, and its association with these. It would be difficult to find any one in our ranks who has attained great eminence in the dental art, or who, by his writings and precepts, has advanced our knowledge in the treatment of diseased teeth, or other parts within the mouth, who did not lay the foundation of his successes in the distinction which he earned by his researches in the natural sciences.

We have met here to-day to furnish our quota towards the advancement of our profession, and its elevation among the liberal and learned professions. It is the *animus* that stimulates our energies, and the energies of all those who truly love their calling. We come here to labor for its continued prosperity, and to communicate whatever of interest we may have learned since the last session of this society. We come here imbued with the spirit of progress, and to lay before our professional brethren our views and observations on those subjects most calculated to improve and instruct them, and benefit our patrons. Let all participate in the deliberations of the session, and whatever of surgical or mechanical interest may have been learned during the past year, let it be given to the society, for the honor of the profession and for the benefit of suffering humanity. If any improvement in Mechanical Dentistry has been made, or new operations devised, let the inventor be induced to spread it upon the records of the society, and receive the meed of praise due him in contributing his share towards the elevation of his chosen profession. The selfish and empirical fashion of secreting improvements, of whatever nature, pertaining to our calling, for the sake of individual aggrandizement, is unworthy the fellowship of honorable men, and must, sooner or later, recoil in shame and odium upon its author. It is to be hoped that such members of our society are, like "angels visits, few and far between." Let me invoke the profession in Missouri, to enter their protest against acts so derogatory to our high calling as benefactors of the human family and let me impress upon them the necessity of instructing their delegates to the National Convention, to guard well the portals of the profession, and shut out such harpies from all deliberation and association in such assemblage.

Finally, gentlemen, let me call your attention to the importance of aiding, with your money and influence, our only educational institution in the West. I refer to the Ohio Dental College, which is doing a good work in extending the usefulness of the profession, and advancing its importance in the social scale.

In conclusion, permit me to thank you for the honor conferred upon me, in selecting me as your presiding officer for the past year, and the zeal and interest you have manifested in keeping our science "pure and spotless in the world."

SPONTANEOUS PULP-DEATH.

HENRY S. CHASE, D. D. S., IOWA CITY.

MRS. P————, age 18, a brunette, soon after marriage, had pain of a throbbing character in both upper central incisors, which resulted in death of the pulps. Alveolar abscess formed from the roots of both teeth, which have continued to discharge about once a month ever since; (about seven years. These cases of spontaneous death are not common, and are usually produced by pathological conditions of the blood, or sudden changes of temperature.

These teeth were not decayed. I undertook their treatment about a month ago. One is thoroughly cured, and the other nearly so.

The treatment consisted in drilling a hole from the posterior surface, near the cutting edge in a direction which would correspond with the long axes of the pulp canals.. Ten or fifteen drops of carbolic acid were forced through the canals of each, *without showing externally*; proving large cavities to exist in the alveoli. Alcohol was also forced in to dilute the carbolic acid, to moderate its escharotic action. Severe pain of a burning character was produced in both teeth at the first injection; and the day following the operation, there was extensive swelling of the gums, and soreness and looseness of the affecteed teeth. A discharge of pus and blood took place also through the openings I had made. In a week I made another injection, which caused *no pain.* Since then the purple and congested appearance of the gums is gone, and the projections of the fistulas have disappeared. The teeth are firm in their sockets. One was permanently plugged two weeks ago, and the other will probably be ready in a week.

In the treatment of alveolar abscess it seems desirable that the injection should appear externally; but in the cases which I have had in the last six months, I find that in eight cases in which the injection was made through the roots it did not show, yet every one was cured.

The abscess is sometimes so capacious that an amount which we would dare to inject, would not fill it and its canal. Yet I do not know that it would be dangerous to fill the cavity, even if it took a drachm or two, provided we leave open the hole in the the tooth for its evacuation, as the walls of the abscess contract. It is well known that carbolic acid, or creosote forms a chemical compound with albumen, which is not readily dissolved. Consequently, the action of these escharotics would be limited, in a measure, to the surface of the membranous walls of the abscess.

GOLD FOIL.

BY I. J. WETHERBEE, D. D. S.

In the practice of operative dentistry, gold foil is used to the almost entire exclusion of other materials. Amalgams, fusible materials, or os-artificiel, for the filling of cavities in the teeth, by whomsoever prepared, are admissible in such cases only when the tooth is not worth the *fee* for a gold plug.

In the use of gold foil our patience is often severely taxed by the want of uniformity in its working, so much so, that we feel compelled to try the foil of numerous manufactures, but still with unsatisfactory results. Some styles are hard and brittle at one time, and soft and flexible at another, so that we are kept in a state of *beautiful* uncertainty, at the expense of equanimity of temper and satisfactory operations.

What we require in gold foil is absolute purity from copper and platinum, or any other foreign material, of whatever name or character. When made from gold absolutely pure it will have a uniformity truly refreshing. In folding, it will will not rattle like a brace of swiss bells, nor will it harden when folded and rolled into the form of a pellet, nor will it harden under the pressure of the instrument; also, it will be comparatively soft when annealed or made adhesive by heating. It will work as easily as crystal gold.

I have recently obtained a superior foil made by Dr. S. J. McDougal, of this city, or under his direction, which for purity and softness is superior to any other previously used. Such is its uniformity thus far, that I feel that the debt which I owe the profession requires me to refer to it in this paper. Whoever shall succeed in furnishing the profession with a foil that will lessen our vexations and annoyances, will receive the thanks of every appreciative practitioner of Dentistry.

By a careful comparison of results, I believe we shall arrive at the conclusion, that foil should be non-adhesive as it comes from the manufacturer, and made adhesive by heating when occasion requires. Again, foil for adhesive use should be No. 3, instead of No. 4, as it yields more readily to the pressure of the instrument, admitting a better impaction. The difficulty of filling deep, approximal cavities, either in the incisors or other teeth, will be materially lessened.

BOSTON, Nov. 15, 1866.

Proceedings of Societies.

THE CONNECTICUT VALLEY DENTAL ASSOCIATION.

The Connecticut Valley Dental Association began its fourth annual meeting at Hayne's Hotel, Springfield, Mass., on Tuesday the 15th of October, with a good attendance of dentists from Vermont, western and eastern Massachusetts and Connecticut. The following members of the association were elected officers for the ensuing year: President, Dr. L. D. Shepard of Salem; vice presidents, C. A. Howland of Barre, and H. F. Bishop of Worcester; secretary, W. H. Jones, of Northampton; treasurer, A. F. Davenport of North Adams; executive committee, O. F. Harris, of Worcester, T. W. Meekins of Northampton and A. B. Cowan of Palmer. The retiring president, Dr. J. Beals of Greenfield, made an excellent address, reviewing the progress of the profession during his long practice, and embracing many facts both interesting and of eminent importance to members of the profession. The remainder of the afternoon session was occupied by a discussion of the "comparative value of soft foil and adhesive gold in durability of results.' This discussion was opened by Dr. I. J. Wetherbee, of Boston, who is quite eminent in the profession.

The evening session was well attended, and the afternoon subject was continued, occupying all the time until adjournment. The various members of the association related their experiences in the use and comparative value of soft foil and adhesive gold in durability of results, and formed a kind of class meeting which was freer than a parliamentary discussion, and much more conducive to draw out information on all sides. Late in the evening the meeting broke up, and the members were agreeably surprised and entertained by a bountiful collation provided by the proprietors of the hotel.

SECOND DAY.

A larger number of dentists than on the first day assembled at the morning session of the Dental Association on Wednesday, and the exercises throughout the day were both varied and interesting. The first exercise of the forenoon was a clinic before the association, three dentists, Dr. I. A. Salmon, of Boston, Dr. J. N. Davenport, of Northampton, and A. W. Davenport, of North Adams, officiating at filling the teeth of as many patients. The first topic under discussion was "Nitrous oxide, and other anæsthetics," and it was opened by an essay read by Dr. George Bowers, of Springfield, Vt., and participated in by nearly all present, in an offhand, pleasant talk. The following resolution was then passed by unanimous vote :

> "*Resolved,* That this association do not consider the nitrous oxide made by Sprague's arrangement any purer than may be produced by the apparatus not interfering with his patent, which applies only to the convenience of the operator in regulating the flame."

Dr. Salmon, of Boston, then read an essay on "Conservative Dentistry, or the best means for accomplishing our great aim, preserving the greatest number of natural teeth."

In the afternoon a code of ethics came up for consideration, being in substance the same as that adopted by the American Dental Association at their last meeting, and specifying the duties which dentists owe to each other, their patients, and the profession. Alveolar abscess was then discussed ably and fully by many of the members. It may not be known to the public generally that with the present advanced state of dental science, not only decayed, but even ulcerated teeth can be restored to health and usefulness, and this important fact was elicited in the discussion. The following essayists were appointed for the next session : Dr. A. A. Holland, of Barre, Dr. H. Wheeler, of Holyoke, Dr. T. W. Meekins, of Northampton, and Dr. Jairus S. Hurlburt of Springfield. An improved head-rest was exhibited to the association by Dr. O. C. White, of Hopkinton, the inventor, and was generally approved.

Resolutions, complimentary to the proprietor of Hayne's Hotel, and thanking him and his assistants for the many accommodations and favors received, were unanimously passed. The meeting of the association ended at dark, and it was voted that the next session be held at Northampton, on the second Tuesday in June, 1867.

DISCUSSIONS OF THE THIRD ANNUAL MEETING OF CENTRAL STATES ASSOCIATION.

Held at Louisville, July 17, 1866.

Wednesday Morning.

TEMPORARY TEETH AND THEIR PRESERVATION.

Dr. Morgan.—The human being is a unit, and any impediment to this unity tends to impair the perfection of that state more particularly in the case of the child during the progress of the formative processes. The temporary teeth are more important than the permanent, to the proper mastication of food, to aid in building up the general organization for the future. Hence, I say, at this age any loss impairs for life.

How to preserve them is a very different subject. I attribute their early decay to improper nutrition. In removing superficial decay, I find the file a very efficient instrument. Separate freely, exposing the dentine. For filling, if there is danger that the decay will reach the pulp before the tooth is shed, I use amalgam. Have occasionally destroyed pulp in deciduous teeth.

Dr. Stone, feared to use amalgam on account of the danger of absorption by circulation. Inquired of Dr. Morgan if he had ever seen such a case.

Dr. Morgan had seen ptyalism produced by use of amalgam, the mercury being taken up in the circulation. Absorption ceases when vitality is destroyed.

Dr. Stone. Does this premature decay result from natural or local causes? Or is it hereditary? My observation would teach me that the most healthy have the poorest teeth, and *vice versa*. I esteem it of the highest importance, as a preventive of decay, to advise cleanliness. In case of superficial decay, I remove with a file.

Dr. Shadoan. Any method of filling deciduous teeth, so that they are preserved until nature is ready to discard them, is preferable to extracting them. I do not fill pulp cavity with gold, for fear it may, by absorption of the tooth, come into contact with second tooth, and cause more mischief than if let alone. I fill pulp cavity with cotton, that it may yield to pressure of second tooth as it advances. As a preventive there must be something to neutralize the acid of the mouth. The saliva is alkaline, and the mucus is acid. Has noticed that children who sleep with open mouths have an accumulation of dry tartar around the necks of the teeth, which acts chemically to destroy them. It is the accumulation of dried mucus.

Dr. Morgan. In reply to Dr. Stone, would say the case is not a good one; not a fair illustration. Thinks he will find the subjects of a scrofulous diathesis. Such subjects scarletina will sweep, like the besom of destruction, they are the ones first attacked. The old theory of Fox and Bell, as to the sack being a protection to crown of tooth, I consider erroneous; also, that the pressure produces sufficient stimulant to effect absorption of deciduous teeth.

Dr. Goddard. Owing to the liability of the arch to contract if deciduous teeth are prematurely removed, I only extract in extreme cases. Use the file. As an instance of the injury resulting from this practice, I will relate the case of a gentleman whose teeth were very irregular, but prizing highly a well arranged set, was determined that his children should have beautiful teeth, for the accomplishment of which he, as soon as the deciduous set were fairly erupted, commenced to loosen them, and before the children were seven years of age, he had removed them all. When these children had arrived at maturity, one of them had the molars and two front teeth, the other only the molars.

Dr. STONE. In case of sack being formed, if not reducible, I will always extract. Sometimes, the circulation being active, the secretion of the sack may be carried off.

Dr. MORGAN thought that in the cases mentioned by Dr. Goddard the germs were destroyed.

Dr. MCCLELLAN. The temporary teeth are equally as important, and as essential to good health as the permanent; for children should as thoroughly masticate their food as the adult. By growth and expansion of the maxillary bones there are frequently spaces formed for the lodgement of food, which, if not removed, produces decay, hence would give great force to the necessity of cleanliness. I use the file, forming v shaved separations. For filling approximal cavities, when decay has gone too far, to be removed with a file, I use the artificial dentine. This will not answer for crown cavities, as it will not stand attrition. If I desire to destroy the pulp, I apply very minute quantities of arsenic. After removing the nerve, I fill fangs with cotton saturated with collodion, the crowns with artificial dentine. Carbolic acid is a good substitute for creosote. When an abscess has formed, after the age of six years, if it is the first temporary molar, I extract. If the second, treat it by injections of diluted iodine. This will generally obliterate the sack. I will endorse Dr. Morgan's statement as to the non-absorption of healthy fangs, unless the second tooth is advancing.

INDICATIONS FOR THE EXTRACTION OF TEETH.

Dr. MCCULLUM gave four requirements:

First—Ascertain if tooth indicated, is the one diseased.

Second—If the organ is one that can be dispensed with.

Third—If the recuperative powers are sufficiently active to restore the diseased organ to health.

Fourth—Whether patient is willing to pay, and to follow advice.

Dr. SHADOAN will extract under any of these conditions; where an abscess is incurable; where the presence of the tooth is injurious; when the crown is lost, and the fang is a cause of irritation; when the tooth exostosed; when the dens sapientia is on the angle of the jaw, causing inflammation and prevents proper occlusion; but will never extract for toothache alone—there must be other attendant conditions.

Dr. BAXTER. I have an indication not yet referred to by any speaker. A patient entered my office while suffering from neuralgia of face, and requested me to extract a certain tooth which he supposed to be the offender. From the appearance of the tooth, I positively refused. He went away. Next day he came again, and I again declined extracting it. The third day he returned, this time almost crazy with pain, and angry at me. With many threatening gestures he came towards me, leaving me no alternative but to extract the tooth or receive a thrashing. This I call an active indication for extraction.

Dr. BAXTER presented a case of malformation of the anterior upper teeth, caused he supposed by premature extraction. The right central and lateral were united by an osseous growth. The patient was of scorbutic habits, and of nervo-lymphatic temperament.

Dr. WILSON extracts all teeth where the fangs are exposed; also the first bicuspid in case of crowded teeth. Is opposed to filling childrens teeth, as under the necessary pressure, injury to the process is frequently the result. Had seen teeth forced further into the sockets. Adjourned.

Afternoon Session.

SUBJECT RESUMED.

Dr. STONE would always extract when abscess had formed and inflammation is as great as to injure the adjacent teeth, or those of second denture about to erupt.

In case of crowded teeth, it requires close judgment to decide which tooth should be removed, but he always would without hesitation, extract teeth commonly denominated tusks. I do not fully appreciate the merits of the method adopted by many, of enlarging the arch by pressure, or bringing teeth into the arch by various mechanical appliances. This is, perhaps, to be attributable to not having met with success in my few attempts.

Dr. DRIGGS. I would differ with Dr. Stone, being more conservative. The alveolar arch is, oftentimes, too contracted to favor a good development. In many cases I extract the six year old molars to give room for crowded teeth. For the correcting of irregularities, I frequently resort to mechanical appliances, to restore teeth to their natural position. It seems as though, accepting nature as our guide, we will not remove teeth to make room for others, except in case of decay; for, by observation we will see that in a perfect set they stand as closely to each other as possible.

Dr. MASON. When the cuspids are out of line, I prefer to remove the bicuspids, as the former are too intimately connected with the expression of the face, and their removal causes a falling away of that portion directly over them. Another reason: if the cuspid has erupted above the arch, the removal of a bicuspid gives room, so that it will eventually fall to its proper position.

Dr. MCCLELLAND.—Leaves the irregular teeth, if admissible until near the age of puberty, thereby preserving the arch. When circumstances compel the extraction of any tooth, I prefer the second bicuspid, for reason advanced by Dr. Driggs. He gave a case of the incisor tooth, of a boy 12 years of age, broken by a fall into three pieces, nearly longitudinally. To aid in supporting application to the nerve, he let the pieces remain after which the loose portions and the nerve were removed. Treated fang, the foramen of which was yet quite large, with tannin. Saw patient in a few days, when there was a slight indication of pus. Cleansed and filled as before, and in a few weeks filled the fang and fragment of crown with gold, the object being to preserve the space for the reception of an artificial tooth later in life. More than a year has elapsed and the fang has given no trouble.

Dr. MORGAN. Is always governed by circumstances of case. Never extracts canines unless compelled. Which tooth shall be extracted is much governed by the manner of occlusion with lower teeth, as there are cases where the upper teeth cannot charge position for this reason. In such a case would take out the second bicuspid.

GOLD AS A MATERIAL FOR FILLING.

Dr. STONE.—From long practice, I can best manipulate soft foil, in strips or tape. Am not satisfied that so good a filling can be made with adhesive as with soft foil. Have used cylinders, but not with success.

Dr. SHADOAN would recommend each operator to choose the method and the kind of foil best adapted to his ability and skill. He used adhesive.

DR. GODDARD. Until recently have never used other than soft foil in ropes, pellets and tape. Within six months have seen some of them put in eighteen years ago, that are still in good condition, preserving the teeth. Recently have experimented with cylinders, formed by rolling the tape on fine steel wire, also use the mallet for fastening and condensing. With my slight experience I am well pleased with the method.

Dr. NAGHEL. Use soft foil.

Dr. MASON. Use soft foil in strips. In approximal cavities of front teeth, sometimes key the filling with adhesive. I object to the adhesive foil, on account of the impossibility to condense, only in the direction of point of plugger, while soft foil will condense laterally. For condensing surface of filling, I use a thin flat instrument with square corners, resembling a long blade hatchet, introduced between teeth and endwise not with point, but with these corners, making a V shaped impression on the filling, and condensing in every direction.

Dr. McClelland. I have tried most of the methods extant with varied success and failure. I now use adhesive foil and crystal gold with mallet. The foil formed into a rope, by means of crimpers, this is done without handling it, then cut into small pieces. I now use soft foil only in filling fangs. As good a filling, and with the same unity cannot be made with soft, as with adhesive or crystal gold. In large cavities I use the crystal, in the smaller the adhesive as it is more easily introduced into a small space. To work this successfully and to insure all parts of the cavity to be filled, requires a nicety of manipulation not necessary with soft foil.

Dr. Morgan. In reply to Dr. McClelland, answered first, that fillings can be made of soft foil, that will wear like enamel, not yielding a particle to attrition. Secondly, that the softer the foil the more readily will it adapt itself to the cavity. Third, a weaker tooth can be filled with soft than with hard or adhesive foil. I also prefer the soft on account of its lateral expansion in condensing. I have tested the various methods of preparing foil, and have chosen the strips. Occasionally use adhesive in building out a point, or the angles of a crown filling.

I do not object to the use of adhesive foil by others, for some succeed, as I have seen many good fillings, but can and do say that the best of fillings can be and are made of soft foil.

I consider the mallet a labor saving instrument to the dentist, and esteem it valuable in filiing the posterior teeth, as they are more easily accessible with it.

Dr. McClelland wished to be understood by the term soft foil as non-adhesive foil.

Dr. Russell uses soft foil in pellets, carry to cavity and fasten with plugging plyers; then with a smooth pointed instrument condense until the base is firm; after which I use the serrated pluggers.

Dr. McClelland exhibited casts of a mouth taken before and after operating. The natural teeth were worn down almost to the gum. Thirteen teeth had been filled, and elongated with crystal gold and the mallet. The lower incisors were lengthened fully three-sixteenths of an inch, and an eye tooth and bicuspid more than a quarter of an inch. As an exhibition of skill it was much admired, though not looked upon as fully practicable.

THIRD SUBJECT RESUMED.

Dr. Filly a recent advocate for adhesive foil, stated that he had weighed it in the balance, and found it wanting.

Dr. Shadoan, in fillng front teeth where enamel is thin, introduces a piece of foil paper between the gold and the enamel, not letting it extend quite to the edge of enamel as it would, by absorption of fluids of the mouth, produce decay. The only object is to conceal the gold, and present a white appearance.

OTHER MATERIAL THAN GOLD.

Dr. Goddard, has used tin, amalgam, and Wood's alloy. Prizes it very highly as a temporary and cheap filling.

There were none present who used any of the temporary, or cheap materials for filling, where gold could be successfully introduced.

Dr. Morgan uses tin and amalgam, more frequently the latter, in grinding surface, and building up of frail molars, also in children's teeth. Has built up teeth which patients wanted extracted, and would not pay for gold, that have lasted for years. We should be cautious in our remarks commending amalgam, in the presence of young operators, as there is great danger of their being misled.

Dr. Stone. Have used Hill's stopping and find it very valuable in frail cavities. Tin foil should be pure, otherwise it will flake.

Dr. Mason. Use Hill's Stopping largely in such cases as require it. In a few cases use tin foil and os-artificial; but am not satisfied that I can do any better than with gold.

Dr. Cobb. Four years ago I first used amalgam, and am now satisfied that I saved some teeth that I could not with gold. Both have their peculiar advantages—the former certainly has its place as a filling. Wood's metal requires care to make a perfect filling. Endorses Dr. Morgan's remarks as to misleading young operators.

Dr. Mason. Is there a better test than time? As a proof that other material will save teeth, cited two cases. First patient now living. Twenty years ago the nerve of a central incisor being dead, the fang was *plugged* with a hickory stick, and the tooth saved. Second case was of a molar fang, *plugged* with same material, when extracted the stick protruded 1-16 of an inch beyond the apex of fang.

I do not recommend cheap fillings on account of the malpractice frequently seen in this kind of operations, and can see no reason to change.

Dr. Storer. Have never put in an amalgam filling. A few years ago when it was much used, I saw very many of them in country towns adjoining where I was located. They were much discolored. This deterred me from its use, particularly in children's teeth, fearing the absorption of the mercury into the system.

Dr. Morgan stated that Dr. Watt was called out on this absorption and replied that the creosote formed an insoluble compound with the albumen, thus preventing the absorption spoken of by Dr. Stone. Dr. T. J. Clark, of N. O. fills fang with *Hickory* and the crown with gold.

Dr. McClelland uses most of the auxiliary fillings where he thinks they are indicated. Has known artificial dentine (a filling made of gutta percha) to save frail teeth when decayed on approximal surfaces, from five to eight years. It is not hard enough to long withstand the attrition of mastication. Oxychloride of Zinc supports the frail walls of a tooth better than any other material. After it hardens, I excavate sufficiently to fill with gold. *Discolored* teeth may be lightened up better in this way than by almost any other method.

Considers Wood's metal preferable to tin, where it can be introduced *perfectly*. An objection to its use is the liability to leave leaks, when the tooth will turn yellow and decay. It should be introduced in a semi-fused state, filling next to the walls of the cavity first. When he can do as well with other material, never uses amalgam.

In answer to Dr. Cobb, said he could not fill *every* tooth with gold, and does not deem it advisable.

AFTERNOON SESSION.—THIRD DAY.

Dr. McCullum, of Augusta, Ky., read an essay on "the Causes of Decay of Teeth." This was prepared in common with several others for the purpose of reading before the High school of Augusta, hoping by this means to elicit an interest in the children in the preservation of their teeth. It was written in an easy comprehensive style, well adapted to accomplish the desired result.

A vote of appreciation was given, of this method of instructing the people and children, and its adoption by others of the profession recommended.

Dr. Brown read an essay on Alveolar Abscess, a production replete with valuable information. A copy is in the hands of the committee on Publication.

ALVEOLAR ABSCESS.

Dr. Stone, treats by two methods, internal and external. First step is depletion, for relief of patient. Then open largely to apex of fang, if possible, introducing creosote to destroy the sack. If the creosote touches all points there is no fear of failure.

Dr. McClelland. First open to apex, if muscles of face are sore and swollen apply leaches to the gums which if applied in time will generally prevent the formation of pus.

If pus has formed and fistulous opening found, treat fangs and fill them, and treat from external opening by injecting iodine.

UTILITY OF TEMPORARY ARTIFICIAL TEETH.

Drs. Stone, Driggs, McClellan and others advocate their insertion.

Dr. REDMAN, opposed it on account of the tendency to thicken the alveolar ridge, thereby producing prominence of the lips.

Dr. McCLELLAND thinks that the absence of teeth causes the lips to become unnaturally thick and rigid.

Editorial.

NITROUS OXYD AS AN ANÆSTHETIC.

THE use of protoxyd of nitrogen, after a protracted dormant period, has recently appeared as an epidemic. That it was so suddenly abandoned, and ether and chloroform substituted for it, is not remarkable, when all the circumstances are duly considered. The non-portability of the gas in sufficient quantities, the lack of apparatus fit to use for a purpose so serious, and the inconvenience in handling such apparatus as was afforded, were well calculated to turn the attention of the profession in other directions. The transitory effect of the protoxyd was also urged as an objection to it, and justly, too, as far as prolonged operations are concerned.

But the nausea, lassitude, and prostration accompanying or following the administration of other anæsthetics, and the fact that, now and again, the wail for the dead was commingled with the fumes of chloroform, have, to some extent, induced anæsthetists to return to their first love, and the protoxyd is rapidly regaining the place which it should have never lost. And, in consistence with the history of the discovery of anæsthesia, in this reform, if reform it be, the Dental profession is taking the lead. Not that Dental surgeons are more progressive or aggressive than general surgeons; but rather that most of their operations, though severe, are brief, and that their patients come to them, while, usually, the general practitioner must go to his, and many of his operations are protracted and tedious, rendering ether, or chloroform more satisfactory. In the use of these, the recumbent posture is very desirable; but this is impracticable with most of the operations of Dental surgery, hence it is but natural that Dentists, above all others, should regard the protoxyd with favor.

But it is possible, that even a good thing may be carried too far. It is acknowledged, by all, that ether and chloroform must be pure. To obtain them thus, in the present state of pharmaceutical chemistry is not very difficult. Reliable manufacturers of the articles are well known. But not so with the nitrous oxyd. While it is fully as important that it be pure, it is more likely to contain impurities than other anæsthètics; and instead of being obtainable from reliable pharmaceutists, the operator has to prepare it for himself. It is not, therefore, to be wondered at, that mistakes occur, and that mischief is done. Indeed, in the present state of affairs, makers and venders of apparatus pressing their wares on the profession, members of the profession buying apparatus because their neighbors have them, and the people demanding freedom from pain in operations, without a willingness to go out of their ordinary haunts to obtain it, the wonder is that more serious consequences do not ensue. True, in the present lack of knowledge, in regard to the proper and legitimate action of the protoxyd, the evils resulting from the inhalation of an impure gas, are nearly always attributed to other causes. They are regarded as merely incidental, even though as legitimate as a burn on the finger, from thrusting it into the fire. A *propter hoc* is regarded as a mere *post hoc.*

Protoxyd of nitrogen, or nitrous oxyd, is usually obtained by the decomposition of nitrate of ammonia. Several considerations in its preparation are worthy of close attention. The nitrate should be absolutely pure. It can now always be thus obtained from reliable chemists. Its composition, as its name indicates, is one equivalent of nitric acid united with one of ammonia. Nitric acid is composed of one equivalent of nitrogen combined with five of oxygen, and its symbol is NO_5. Ammonia is formed by the union of one equivalent of nitrogen and three of hydrogen, its formula being NH_3. The formula of nitrate of ammonia is, therefore, NH_3,NO_5. I am thus minute because I have no right to infer that the readers of the "REGISTER" are all technical chemists. The water of crystallization is not included in the formula, as it has nothing to do with the phenomena of the decomposition.

Now, it will be observed that the three elements composing the nitrate are, when free, all gases. By their native elasticity they have a tendency to resume the gaseous form. This elasticity is increased by heat; and that is the reason that heat alone is able to decompose the nitrate. As the decomposition takes place, new affinities assert themselves. That between oxygen and hydrogen is, perhaps, the strongest known to chemistry. Accordingly, the three equivalents of hydrogen take three of oxygen, and form three equivalents of water. The remaining two equivalents of oxygen take, each, one of the nitrogen, and form the nitrous oxyd, or protoxyd of nitrogen, under consideration. The reactions which take place, when this order of decomposition is perfectly carried out, are clearly set forth by an equatition:

$NH_3,NO_5=3HO+2NO.$

When the nitrate is pure, and properly decomposed, the only results are three equivalents of water and two of nitrous oxyd. But the nitrate is some times contaminated with *sal ammoniac*, in which case, chlorine, a poisonous, suffocating gas, will be commingled with the nitrous oxyd.

But even if the nitrate of ammonia be pure, it may be decomposed by heat, so as to give an impure nitrous oxyd, or even none at all. Nitrogen and oxygen combine in so many proportions, and thus give rise to compounds differing so greatly in their chemical and therapeutic properties, that, to be safe, every step of the process of decomposition must not only be understood, but accurately performed. For example, if the nitrate be decomposed at too high a temperature, instead of nitrous oxyd and water, as in the preceding equation, we may have binoxyd of nitrogen, called *nitric oxyd*, water, and free hydrogen, represented thus:

$(NH_3, NO_5)=2NO_2+HO+H_2.$

Or, at a still higher degree, we may have nitrous acid, ammonia, and oxygen, thus:

$NH_3.NO_5=NO_4+O+NH_3.$

Or, a little higher, the changes are thus represented:

$2\ (NH_3,NO_5)=NO_4+6HO+N_3.$

Any one who can read a chemical formula, will see at a glance, that in any of these decompositions, there is nothing that can sustain respiration for a single inhalation, while an active corrosive poison is present in each of them.

But it is claimed by some, perhaps by many, that these, and all other impurities are removed by washing, that is, by passing the gas through water, on its way from the generator to the receiver. At first sight, this is plausible, and may, therefore, deceive many. But let us examine, as the health, and perhaps the lives of our patients are at issue.

Nitrous acid, NO_4, and ammonia, NH_3, are both highly soluble in water, and may, therefore, be readily removed by washing. But with the nitric oxyd, or binoxyd of nitrogen, NO_2, the case is far different. And, as it is the poison most likely to be formed, it is very important that it be understood.

Nitric oxyd is a colorless, tastless, gas, about as heavy as atmospheric air; it excites violent spasm of the glottis, when an attempt is made to inhale it. Water dissolves only *about* 11 *per cent. of it.* In contact with atmospheric air, it is converted into *nitrous acid*, which, in contact with water, (liquid or vapor) is changed to *nitric acid.* (See Turner's, Graham's, or any standard work on chemistry.)

From the above, it will be seen that nitric oxyd can not be washed out of nitrous oxyd, as water dissolves only 11 per cent. of it, while it dissolves about its own bulk of nitrous oxyd. If generated by itself, or along with nitrous oxyd, it will pass through the washers into the reservoir, or gasometer. Then, if it be inhaled, its effects may be varied. When pure, it can not be inspired, on account of the violent spasm of the glottis produced by it; but diluted with other gases, it may be. Let it be remembered that it is highly corrosive, and its effect on the mucous membrane of the air passages may be appreciated.

But this is not all, nor the half: Nitric oxyd in contact with air, turns to nitrous acid, and this, in contact with water, to nitric acid. As both air and water are always present in the bronchial tubes and cells of the lungs, it is not possible that nitric acid be not formed, if nitric oxyd be inhaled; for the laws of chemical combination are laws of the unchangeable God.

Nor is this all. But if one would boil nitric acid, and cause a patient to inhale the vapor, it would be regarded as quite enough to damn him to infamy, and drive him from the profession. But in that case, the acid would be in its ordinary, or quiescent state, while in the other, its nascent condition gives it greatly increased energy of action.

From the above, it follows that nitric oxyd is *the impurity* to be dreaded in the use of nitrous oxyd as an anæsthetic. The question arises, how is its presence to be avoided. Various attempts have been made to answer this. Protosulphate of iron is sometimes put into the wash-bottles. This salt absorbs nitric oxyd. But unless we know how much we are going to make, while not intending to make any, we can not tell how much of the sulphate to use. Another method is, to admit atmospheric air into the gasometer, the oxygen of which changes the nitric oxyd to nitrous acid, which will be removed by the water; but there is no way to determine how much air to admit. If too much, it dilutes the nitrous oxyd. If too little, it fails to remove the nitric oxyd. In short, the only way is, not to generate any nitric oxyd. And, to attain to this result, we must have apparatus by which the heat can be kept nearly uniform through the entire process of decomposition. Take, for example, a gasometer which requires an hour and a half to fill it. The process may go on exactly right for an hour and a quarter, but, by too high a temperature during the last fifteen minutes, enough of nitric oxyd may be formed to poison the entire contents of the gasometer. No man can give such attention to the process, with ordinary apparatus, as will enable him to *know* that he has not a mixture of nitrous, and nitric oxyds in his gasometer, instead of *pure nitrous oxyd.*

With the uncertainty of the ordinary processes of decomposing nitrate of ammonia it is not strange that soreness and congestion of the air passages are so frequently observed after the use of the nitrous oxyd. Defective apparatus in the hands of the inexperienced, and those without chemical education, is likely to result imperfectly. A man may be a good anatomist, and a fine operator, without a thorough knowledge of this process; for it is *strictly chemical.* Many are honestly experimenting without sufficient chemical knowledge to be aware of the danger—some, possibly, so far back as to be unwilling to learn. Though a teacher of chemistry for nearly a quarter of a century. I never would, *never did*, and NEVER WILL use a nitrous oxyd apparatus, even for amusement, without the ability absolutely to control the temperature at which the gas is generated. The man of science has no more right to profane the laws of nature than the minister of the gospel has to profane the laws of revelation.

Sprague's apparatus gives us thorough control of the process of decomposition, and there may be others that do, but I have not seen them. If not in existence now, I take it for granted that such soon will be.

But I began, only to write a page; yet the subject is, by no means exhausted. I may refer to it in a future number. W.

A FUNNY RESOLUTION.

IN the proceedings of the "Connecticut Valley Dental Association," published in this number of the "REGISTER," is the following:

"*Resolved*, That this Association do not consider the nitrous oxyd made by Sprague's arrangement any purer than may be produced by the apparatus not interfering with his patent, which applies only to the convenience of the operator in regulating the flame."

Now, with all due deference and respect,—since the Irishmen resolved to have a new jail, to build it out of the materials of the old jail, and to keep the prisoners in the old, till the new one was finished—such a platitude as this resolution has not been passed by a deliberative body.

We are not the champion of Mr. Sprague. The quality and price of his apparatus indicate that he can take care of himself. But the *people* have a right to protection against the perversion of science. Nor have we serious objection to the main statement of the resolution, if it means just what it says. The Association does not consider the nitrous oxyd made by Sprague's apparatus any purer than MAY BE produced by apparatus without a heat regulator. A porcelain glue-pot, a discarded pickle-jar, an abandoned nail-keg, and a relinquished fruit-can can be so arranged that pure nitrous oxyd *may be* obtained now and then, by their aid; but it is just barely possible, and that is all that the resolution claims for the apparatus it refers to.

An engineer *may* run a steamer across the Atlantic without a steam gauge; but only fools would, knowingly, cross a river on a ferry-boat so arranged. As well might it be said that the steam gauge "applies only to the convenience of the engineer," in regulating the fire, as claimed that Sprague's regulator "applies only to the convenience of the operator." A steam gauge *is* a "convenience" to the engineer. He can ascertain the pressure of the steam with more ease, and *perhaps more accurately*, than by looking at the fire. But the gauge is also a "*convenience*" to the passengers, unless they are ready to take the risk of a heavenward flight on a cloud of steam. But the passengers are quite as safe on a steamer without a gauge, as a patient is inhaling gaseous matter generated by the decomposition of nitrate of ammonia without a heat regulator. For the explanation of the danger and its sources, see an article in the present number entitled, "Nitrous Oxyd as an Anæsthetic."

A case in point has just been told us by the parties concerned: Two of our Dental friends, well posted in the science of our profession, (the Connecticut Valley Dental Association would regard them as the equals of their best members) conluded to experiment with the gas. They bought their apparatus at a standard dental depot. It had no regulator. One of them administered the gas to the other, with alarming, and as they believe, with nearly fatal results. The heat had run too high, at least a part of the time, while generating the gas, and *nitric*, instead of *nitrous* oxyd was formed. We know of a number who are suffering from laryngeal, and bronchial irritation, from the same cause.

Suppose physicians and surgeons had to prepare their own chloroform as they use it. Does any sane man suppose the results would be safe or satisfactory? Yet there is less liability to mistake in making chloroform than in making nitrous oxyd. We never yet met with a case in which we were afraid to give chloroform that the patient could not find a medical or dental student, of but a few months' study, willing and anxious to administer it. This is in accordance with human nature. Only new recruits are fool-hardy; *veterans* are *brave*, but never reckless.

Several years ago, a merry group of us were on the "Maid of the Mist." Cheerful songs and laughter rung out as from the mouths of released school children. Our attention was arrested by the attitude of the Captain. He stood alone, with compressed lips--eyes and nostrils dilated—his whole demeanor giving evidence of agonizing attention. We were making a single trip, and realized only a pleasure ride on a steamboat. He was going thus, hour by hour, for months, and *knew he was playing with Niagara.* So it is with anæsthetics. Those who know the least have the fewest fears. "Fools rush in where angels fear to tread," is not the correct quotation, but it expresses the idea.

But does so short a resolution need such a long notice? It was passed at a meeting of a large, active, *good* association of our profession. If so many, in one locality are in error, there is a call for light; and there is no danger from too much. We are told that the resolution passed unanimously. We have read of a flock of sheep that *unanimously* drowned themselves in the sea, when their blind bell-weather jumped over the cliffs; and we have always believed that, if they had possessed a clear idea of what they were doing, there would have been some dissenters among them. So we believe, if there had been *one* good practical chemist in the Connecticut Valley Association, the resolution, if passed at all, would have had a different vote. W.

CLOSE OF THE VOLUME.

This number closes the twentieth volume of the Dental Register. The publisher thankful for the liberal support given to, and the appreciation manifested for the Register, hopes for the future to make it more worthy of both. We presume none have a keener sense of its imperfections than we, and yet these have been of such a nature that we could not wholly control them; we hope in the future to render them less and less till they wholly disappear.

We send out bills with this number to all who are in arrears, and hope most earnestly to have a full response to every one. As we expend the entire income of the Register on its publication, we see no good reason why we should advance the subscription of some of the readers of the Register for from one to four years, in addition to devoting a large portion of time to editorial and publication work. We hope that the Register will receive the hearty support of the profession, both with the few and many.

THE TWENTY-FIRST VOLUME.

The January Number will introduce the twenty-first volume of this Journal. We are most happy to state that Dr. Watt has again consented to become one of the editors. We feel confident that this will afford the greatest pleasure to the readers of the REGISTER and meet with their highest approbation. Dr. W.'s abilities in the editorial chair are so well known to the profession that it is unnecessary for us to say aught upon the subject here. In this fact our readers have a guarantee of improvement in the journal. The forthcoming volume will not be much changed in appearance from the present, but improvements will be made just as rapidly as the *runner!* will warrant. If any desire to stop their subscription with the present volume, we hope they will notify us of the fact immediately, and if any wish to continue we are very anxious that they should notify us of their intention, by sending through the mail or otherwise, the insignificant sum of Three Dollars.

OBITUARY.

It is with much pain that we have just learned of the death of our intimate friend and professional brother, Dr. A. M. Leslie, of St. Louis, Mo. He died at Memphis, Tenn., on the 30th ult., of cholera. He was attacked suddenly and died in a very short time.

Dr. L. possessed, in a marked degree, those qualities that command the esteem and high regard of all who knew him. He leaves many warm friends in this city, and indeed throughout the country, to mourn his loss. He was ever foremost in doing that which would best subserve the interests of his chosen profession. He was a man of positive character—one who would make his influence felt wherever he was, and in what he undertook. We are advised that a more lengthy sketch of his life will be written than space will here permit.

The bereaved friends and family have our warmest sympathy.

DIED—In St. Louis, Mo., on the 29th ult., Dr. John S. Clark, long known to the profession as one of its noblest members. He has, for many years, stood as one of its able supporters and defenders. The Dr., for several years, has been a great sufferer from a neuralgic affection, the influence of which ultimated in his death. His loss will be severely felt. His name has been almost a household word throughout the profession for many years, and he has not died without having done much good.

The profession, with sorrow, will feel tenderly for those who sustained the great loss of husband and father.

HRA

Dental Register. v. 20. 1866.

Harry R. Abbott
Memorial Library

V. 20
1866

FACULTY OF DENTISTRY
TORONTO